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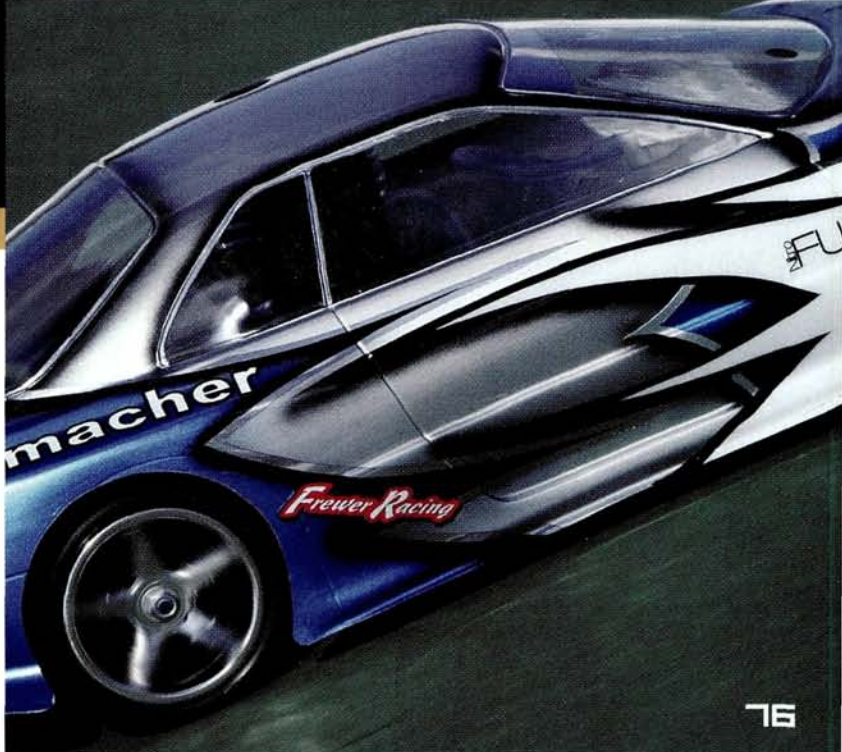
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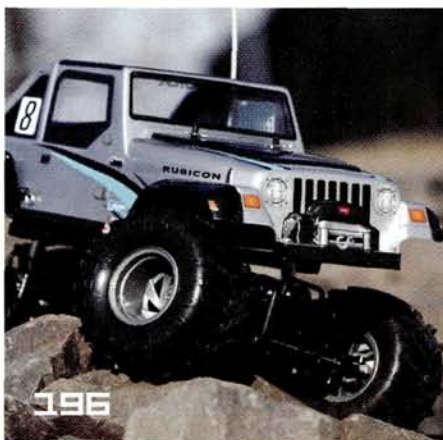
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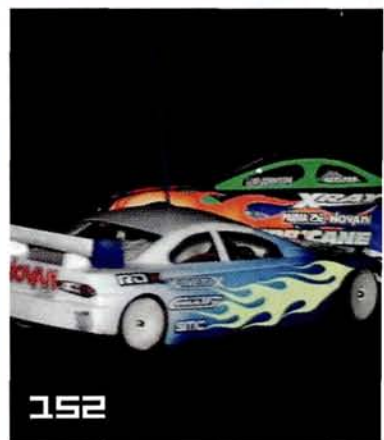
COVER STARS: the Schumacher Fusion leads CEN's CT4-S into hyperspace. Studio speed courtesy of Pete Hall



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Scratching the Niche Itch

OK; so you're into RC. That means you like either nitro or electric, on-road or off-road, and you either have a truck, buggy, or touring car. Right? Well, kinda. Part of what makes RC so interesting are the huge variety of vehicles and the many ways to race,

run, or just play with them. For every broad category, there are numerous niches that put a different spin on the scene. This month, we have a taste of two. The first is a unique take on the type of monster trucking that's growing in popularity with RC truckers and full-scale off-road fans alike: rock crawling—a unique blend of motorcycle-trials agility and boulder-scaling brute strength. Speed isn't at play here; it's all about climbing the impossible and getting to the top (or back down to the bottom) with the shiny side up. Sound like you? George Gonzalez details his Tamiya TLT-1 climbing-conversion steps, which are also a good launching pad for any climbing project.

On-road racing may seem less multifaceted (after all, the cars can't handle any terrain other than pavement), but don't tell that to drift fans. The art of getting sideways began in Japan, and it has infiltrated the tuner scene worldwide. RC is in on the action, too. *RC Car Action* showed you how to set up to get sideways back in the February '03 issue, and Yokomo is big in the scene with its Drift-spec kits. Now HPI brings drifting to the nitro guys with its Stage 3 Drift Conversion kit. It's extremely trick and really makes your Nitro RS4 3 a better drifter—just ask George Gonzalez who tested it for this issue. Rock crawling, drifting ... the G-Man is all over the place!

But enough about George; let's make this about you. What are your favorite not-quite-mainstream forms of RC? Which do you want to see more of in *RC Car Action*? Email me with "My Niche" in the subject box; you'll be heard, and you might win something!



In This Issue

HIGH-SPEED HEAD TO HEAD

The Schumacher Fusion GTR and CEN CT4-S both lay claim to top speeds that would fill your rearview mirror with flashing blue lights if you drove that fast in your "real" car, yet they are sold completely RTR for any newbie to tear into. Sounds like a showdown to us!

DURATRAX INTELLIPEAK ICE

Sure it's got lots of features, and it's affordable, but does it really work? Yes! I mean, "Turn to page 168 to find out!" Whew; I almost spoiled the ending. Good save.

TRINITY GP3700 CELLS

Remember when 2000mAh seemed like a big deal? The cells in my transmitter now pack 2300mAh, and the newest GP sub-Cs pack a full 3700. But how's the punch? We test the new supercells on the discharger and the track to find out.

Peter Vieira

Peter Vieira
Executive Editor

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Editorial Director JON CHAPPELL
Executive Editor PETER VIEIRA
Senior Technical Editor STEVE POND
Senior Editor JOHN HOWELL
Associate Editors MATT BOYD, KEVIN HETMANSKI, MATT HIGGINS,
PAUL ONORATO
Managing Editor DANA DONIA

WEST COAST

Senior Editor GEORGE M. GONZALEZ
Associate Editor JASON SAMS

CONTRIBUTORS

ROB ALLGEYER, KENNY BERGSCHULTZ, JOEL JOHNSON,
DAVID C. KONNEKER, BRIAN LESLIE, ELVIS MACHADO, NATHAN
MILLER, ERIC QUERTERMOUS, LITO REYES, NICK SAVA, JOSHUA
THIEL, RICHARD THOMPSON, RICHARD TRUJILLO, BILL ZEGERS

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Senior Copyeditor PAIGE L. HAMILTON
Copyeditors SUMA KAVIRAJAN, COREY M. WEBER

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Senior Art Director LESLIE COSTA
Associate Art Directors MIKE AMADITZ, CHRISTOPHER CASEY,
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Marketing Art Director CHRISTOPHER CHU
Staff Photographers PETE HALL, DERON NEBLETT

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Senior Production Coordinators BOBBI-JO BALDWIN,
SHERRY MORGAN

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Web Developers HOLLY HANSEN, LEO FICKS
Web Programmer JAIME TORRES

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Group Publishers LOUIS V. DeFRANCESCO JR.,
YVONNE M. DeFRANCESCO

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[READERSWRITE]

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How'd They Do That?

How do companies like Traxxas come out with the complex painted bodies like the new Jato's? I thought the only way to get a body to look that way was to use an airbrush and liquid tape. Is there another way—a better way—to do it? There must be some easy way if they do it for you. [email] James D.

Palm Bay, FL

It's simple: the graphics are printed onto the plastic before the body is molded. So, instead of sliding a clear sheet of Lexan into the vacuum-molding machine, it's a full sheet of graphics. The only downside is the windows can't be left clear, which is why the Jato and many other RTRs have solid decals in place of clear windows.

—Pete

Hey Kev, about that Bruiser...

I was reading "4x4" in the April issue and came up with a simple fix for the reverse rotation problem: flip the differential! The "pig" will be offset to the other side, but this shouldn't be a problem.

Mitchell Mead

Sorry if this is something you already looked at, but is it possible to flip over the axles on the "4x4" Bruiser to get the diffs running in the wrong direction instead of flipping the motor?

Rich

Great "4x4"! The reverse rotation problem has probably been solved by now, but if not, you can flip the axles (left becomes right), and the axle rotation will change.

Greg Wagner

Thanks guys, but flipping the axles wasn't an option in this case because the leaf-spring tabs would have then been on the wrong side of the axle. But your instincts were good!

—Kevin



Mini Nitro?

I came home from school and saw my new April '05 RC Car Action magazine sitting on my desk. I picked it up and flipped through it. When I first saw the picture of the new Mini 777, I thought that someone had finally developed a mini nitro, and I was disappointed to see it was electric. I have no idea why nobody has devel-

oped a mini nitro. They make

engines down to 0.06ci; I have seen them before. I think it would be a hit if they could find a way to make it work.

Nathan W.

I'm betting Kyosho will build a nitro version of the Mini 777; it seems like a natural. If they don't, someone else will. It's gonna happen.

—Pete

Great Minds

I have been reading your magazine for a long time and have learned a lot from it. I wholeheartedly agree with your "More Track Time Please!" editorial in the March issue. I started out racing with an RC10B4 in a stock class and have since moved to a Losi Triple-X NT AD2. As a former electric guy, I know that those of us who race electric take our racing just as seriously as the nitro guys do. I would love to see more track time for the electric classes—at least in the stock class, with maybe seven to 10 minutes for the Mains. With batteries as advanced as they are, it would be no problem at all. So all you track owners and directors, listen up: we want more track time for the electric classes! Keep up the good work and the great articles, guys; see you next month.

Jeremie Tumlinson

Email from Ed's Lab

I have a suggestion that could be an electric breakthrough: what if a manufacturer made an electric car, truck, or buggy with a built-in generator that works like the alternator found in full-size cars? That would mean unlimited run times! I mean sure, it would take a lot of planning and

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testing to get it to work, but think about it. Please forward this to any RC manufacturer. [email]
Ed Tejada

Hmmm ... a generator that powers a motor to operate the generator, thus creating an endless loop of free energy! It will require some bending of the laws of physics and thermodynamics, but it just might work! If it does, I wonder if it could have applications outside of RC
—Pete

Has Anyone Seen My E-Maxx?

I just want to tell you guys that I love your magazine. The reason I'm writing is because I wanted to tell you about the role of the RC industry in the global war on terrorism. I am sure you are all well aware of RC planes (drones) and the bomb-handling robots, but one RC truck in particular has found its way onto the front lines: the E-Maxx (my absolute favorite of all RC vehicles). The Army is using what is known as the MARC-bot to search out Improvised Explosive Devices (IED). The IEDs are generally placed in or under cars and then detonated via a transmitted signal



We've referred to the E-Maxx as "bombproof" in the past, but we didn't mean literally! Great stuff, Andrew, and a big thanks to you and everyone else in the armed forces for doing their thing to keep us safe.
—Pete

while the perpetrator hides a safe distance away. The E-Maxx has been modified to hold various equipment to help detect, neutralize, or detonate the IEDs. It's an inexpensive alternative to other methods that have been in use. And with the operator being able to stay at a safe distance, it is relatively safe to use. Check it out for yourselves at www.amti.net/3-1-7-1_IEDarticle.htm and see just how much RC can impact the war on terrorism.
Andrew Stallings
Electronics Technician 2nd Class (SW)
U.S. Navy

YOU SAID IT

"Hard work pays off!"

Hi, my name is Kevin, and I'm in the 11th grade. I just wanted to let you guys know that RC has taught me that hard work pays off! When I first started high school, I had no determination and never did any work, but later that year I bought a Tamiya Stadium Thunder. When I got home and opened the box I saw all the parts and thought, "Forget this!" But then, I started thinking how cool it would be when I'm racing it down my street, so I sat down and built the truck. I ran into some problems because it was my first "real" RC car, but I kept going until it was done. When I was driving it around, I thought, "Whoa! My hard work paid off!" I have applied the same thing to my school work, and my grades have been going up every year. Now I also have an HPI Nitro MT Racer and a Losi Mini-T and I'm saving up for an HPI RS4 18SS. Hard work pays off! Thanks for the great mag!

Kevin K. Puri
Richmond BC, Canada



Nice letter, Kevin; pick out a Reference body!—Pete

Every month, "Readers Write" sponsor Team Trinity awards the "You said it" letter writer the Reference body of his choice. This is the Trinity C Machine.

Team Associated Factory Team RC18T

Associated's Factory Team RC18T kits are now available. The Factory Team kit includes trick A-Team parts such as blue aluminum threaded shocks, dogbones, titanium turnbuckles, a heat-sink motor mount, graphite battery strap, blue aluminum M3 locknuts and carbide-steel diff balls.

For those of you who have a stock kit, Team Associated also offers a Factory Team billet 18T aluminum upgrade kit. It comes with everything that the FT kit version includes as well as aluminum shock towers, suspension arms, caster blocks, steering blocks, rear hub carriers and a bottle of 25WT silicone fluid.

Factory Team; distributed by Team Associated
(714) 850-9342;
teamassociated.com.



The RC18T is also now available in monster trim as the RC18MT.



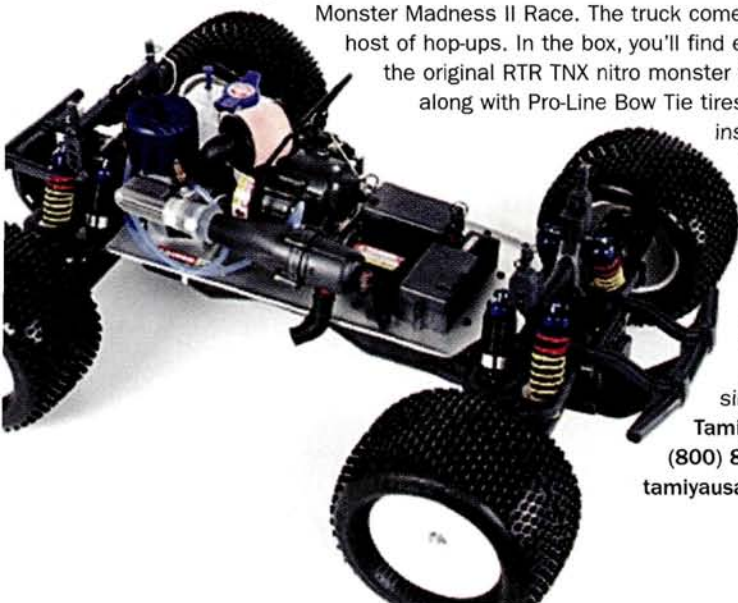
Tamiya TNX Pro Edition

This new Pro edition of the TNX replicates the trucks driven by Jimmy Jacobson and David Jun at the 2004 RC Monster

Madness II in Enfield, CT, and the Pro-Line Maxx Challenge Race in Banning, CA. Jacobson took TQ honors at the Pro-Line Maxx Challenge event in the small-block class and later went on to win the Monster Madness II Race. The truck comes with a whole host of hop-ups. In the box, you'll find everything that the original RTR TNX nitro monster truck included along with Pro-Line Bow Tie tires with foam

inserts, white Velocity wheels, the Powerstroke Performance shock kit and a new Tamiya blue-anodized, oversize heat-sink head.

Tamiya America Inc.
(800) 826-4922;
tamiyausa.com.



POWER ZONE

epic shock mods

Epic has a new line of hand-wound modified motors. The motors are available in Big-Track and Short-Track configurations and come with round or flat wire armatures. The Shock mods come with a unique-looking aluminum endbell that features billet brush hoods. According to Epic, the brush hoods were designed to offer a tighter brush fit, thus eliminating brush bounce and offering better cooling. The motors also come with new oversize brushes that carry more current for more power and low-end punch. The brushes themselves are made of a super long-life compound, so you won't be cutting your comm after every run!

Epic Motorsports
(732) 635-1600;
epicmotorsports.com.





MIP Lightweight parts for Revo

MIP has a new line of lightweight aluminum hop-ups for the Traxxas Revo that includes front and rear pushrods, toe links and lightweight Bones. The new Bones feel as light as a feather. When we weighed one, we were shocked to find it weighed only 0.4 ounce. MIP also offers hard-coated, aluminum pivot balls and aluminum rocker arm posts. MIP (626) 339-9007; miponline.com.

PRODUCT UPDATE

spektrum DSM

The Spektrum DSM we reviewed in the April issue performed properly, but since the DSM's official release, reports of sudden delays in response time and "floating" neutral points have begun to appear. According to Horizon and Spektrum, the problems were the result of a programming error that may only affect only a small percentage of systems from the first production batch. For details, visit spektrumrc.com; if your system seems to be having any of the problems listed, Spektrum will make it right.

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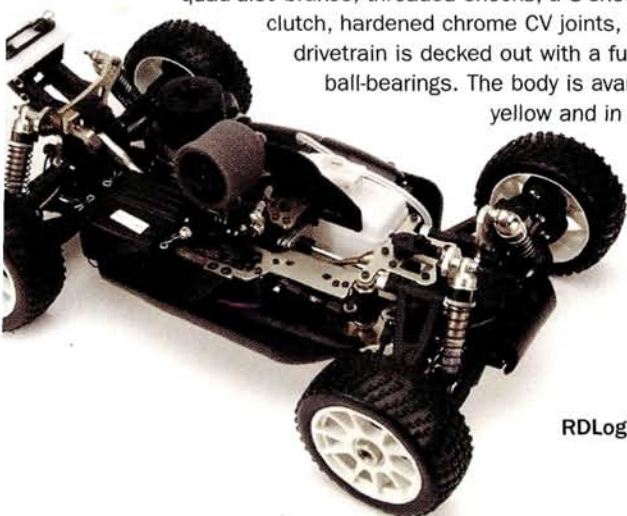
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RDLogics SHO buggy & wolverine MT



RDLogics, new SHO 1/8-scale buggy comes packed with tons of great features. This ready-to-run buggy is equipped with an Airtronics Sport AM radio and metal-gear steering servo, a competition-style .21 engine with pull-start, front and rear swaybars, hardened CNC-machined gears and a lightweight machined chassis and braces. Other noteworthy features include quad-disc brakes, threaded shocks, a 3-shoe racing clutch, hardened chrome CV joints, and the drivetrain is decked out with a full set of ball-bearings. The body is available in yellow and in orange.

The Wolverine RTR is also controlled by an Airtronics Sport radio, and it, too, comes with many swanky features. You get adjustable aluminum shocks, hardened and coated steel gears in the drivetrain (which coincidentally spins on full ball-bearings), a huge 270cc fuel tank, dual-disc brakes, large (6.75-inch) tires and a two-speed tranny. Powering this beast is a .27 big-block engine coupled with an aluminum pipe and 3-shoe racing clutch. The Wolverine is currently available in blue and in yellow trim.

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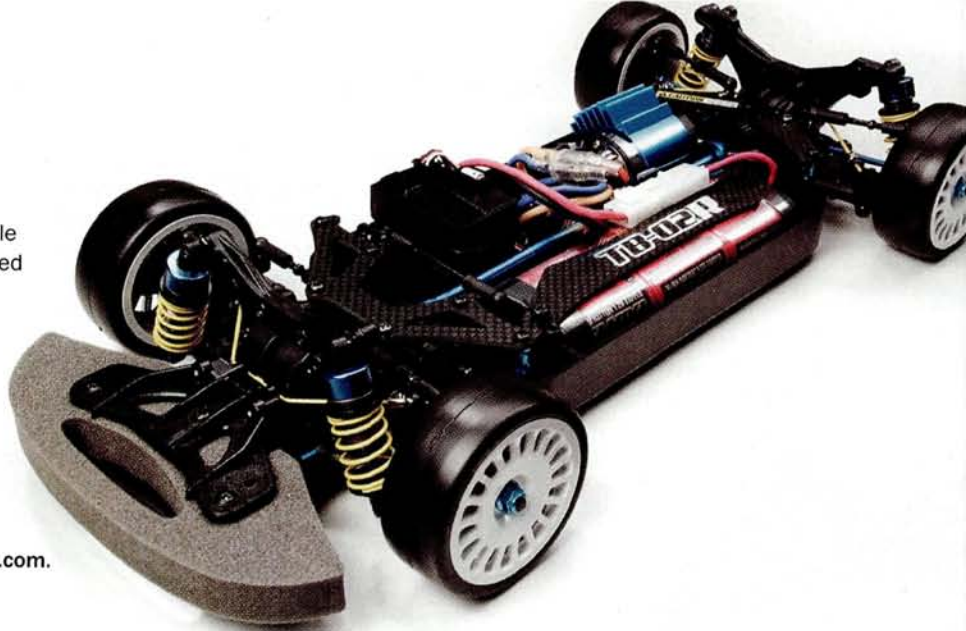
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www.epicmotorsports.com

Tamiya TB-02R

Tamiya's shaft-driven TB-02 has been given a little high-performance facelift. The new TB-02R is fitted with Tamiya's latest high-grade option parts and includes carbon-fiber braces, race-proven, reversible, lightweight suspension, "medium" front and rear swaybars, Tamiya's best TRF fluorine-coated shocks and medium-narrow type-A belted tires. Aluminum upgrades include a blue-anodized main shaft, shock caps and clamping hex hubs. The TB-02R is a limited-release kit, so get one while they last!

Tamiya America Inc. (800) 826-4922; tamiyausa.com.



Novak Electronics Inc. (949) 833-8873;
teamnovak.com.

NOVAK Ionic-D charger & discharger

Novak has updated its Ionic charger, and it comes packed with features. The new Ionic-D is available in AC/DC and DC-only versions and includes a 10A discharger. Novak is still tweaking the final specs and details, but here are some of the key highlights:

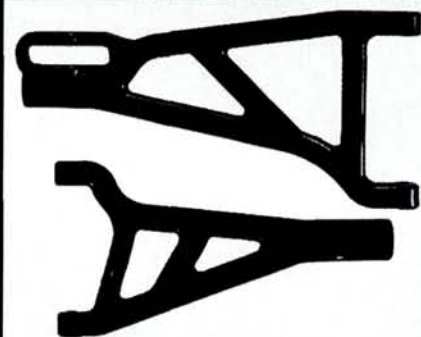
- » 3 functions: auto discharge before charge; charge only; discharge only
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- » Detachable AC and DC cords
- » Reverse input, reverse output and thermal-overload protection
- » Built-in cooling fan



Pro-Line RC18T Crowd Pleazer 2.0

Pro-Line now offers its cool-looking Crowd Pleazer 2.0 body for Team Associated's new RC18T mini off-roader. With its low-CG styling and detail, the 1/18-scale Crowd Pleazer 2.0 body is identical to its 1/10-scale predecessors. The 0.030 Lexan body comes with window masks and decals.

Pro-Line (951) 849-9781; pro-lineracing.com.



RPM Revo suspension arms

RPM's suspension arms are among our favorite bulletproofing items. Now they're available for the Revo, and they are nearly identical in weight to the stock ones. RPM claims that their design provides added durability, and excess arm endplay has been eliminated for more accurate caster and toe-angle settings. Other cool features include: angled leading and trailing edges to resist dirt buildup; elimination of low-hanging cross-braces and shock-mounting areas to provide better ground clearance; and larger shock-rod mounting areas for improved rigidity. They are available in black, blue and dyeable white.

RPM RC Products (909) 393-0366;
rpmrcproducts.com.

Parma MT bodies

Parma recently released two new monster truck bodies: a new Ford F-150 and a new X-Citer. The F-150 features an extra cab design and is made out of super-thick 0.060 Lexan and comes with window masks and stickers. It fits the MGT, LST, TBX and Genesis monster trucks. The new X-citer body is designed to fit the Traxxas Revo, and it, too, is made of 0.060 Lexan and includes window masks and stickers.

Parma/PSE (440) 237-8650; parmapse.com.



Epic Industrial 3800

Epic's Industrial 3800 sport pack is designed for those who are looking for high-performance voltage and run time without breaking the bank on killer matched cells. A "Team Level" pack that features the same run time as the standard 3800 pack will soon be available, and it will use the highest voltage cells available.

Epic Motorsports (732) 635-1600; epicmotorsports.com.

HOT RUBBER

Team Losi LST super king-pin tires

The monster-size Super Kings are very similar in design to Losi's already proven 1/10-scale truck version. According to Losi, the larger King-Pin treads have proven to be successful on both packed and slightly loose track surfaces, and the full-size 160mm diameter is perfect for the LST's stock gearing and offers additional side bite and good traction and control in the rough stuff. The Super King-Pin's silver rubber compound

offers the best combination of grip and extended wear. The tires fit all popular

85mm rims and include precision-cut firm foam inserts that have been developed especially for the larger monster truck tires.

Team Losi; distributed by Horizon Hobby Inc.

(800) 338-4639; teamlosi.com; horizonhobby.com.



PIT BOX



HPI Racing infrared temperature sensor

Since HPI has a wide variety of nitro cars in its lineup, it makes perfect sense that HPI is now releasing its own hand-held temp gun. This infrared thermometer helps you to tune a nitro engine (and even electric motors) for maximum performance. It can also be used to check tire and track-surface temperatures to optimize handling. The unit has an LCD readout, an ergonomic design, quick point-and-click temperature detection, auto-shutoff mode for long battery life and instant Fahrenheit-to-Celsius conversions.

HPI Racing (949) 753-1099; hpiracing.com.

SPECIAL NUREMBERG REPORT

by Jason Sams

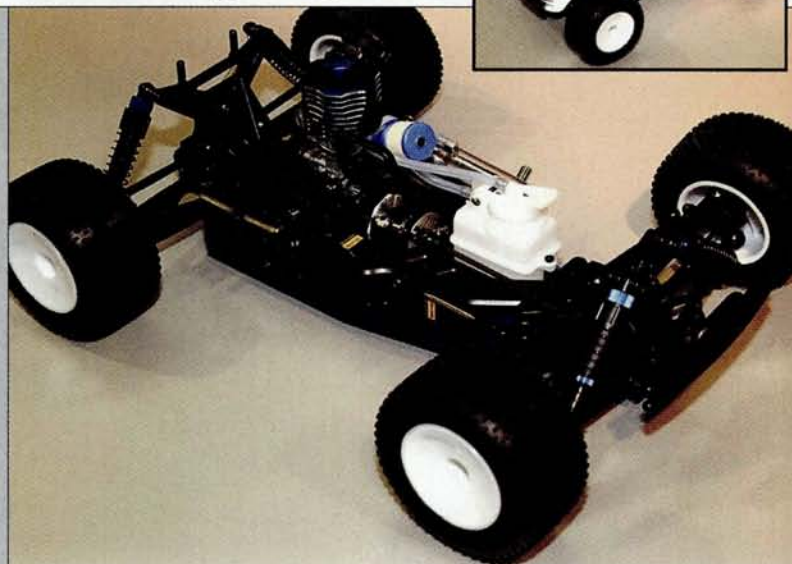
The Nuremberg Toy Fair is the largest of its kind, with more than a dozen convention halls packed with booths displaying the latest toys. But it isn't just kids' stuff; "real" radio control is a big part of the Toy Fair. Here are the highlights ...



GS Racing storm CL-1

In an effort to produce a tougher competitor, GS Racing will release the all-new Storm CL-1 (designed by Claude Lachat—hence the designation, CL-1). The suspension geometry and CG were focuses of the new design. According to GS Racing, the buggy has a lower CG than any current 1/8-scale racing buggy. Competition features such as spiral-cut gears, a lay-down steering servo and adjustable caster, anti-squat and camber-link locations are standard. Unique chassis braces secured to the chassis with a large "foot" eliminate chassis flex. According to GS, the only parts carried over from the Avenger are the fuel tank, shocks and radio box. The buggy will be available just before the holidays.

GS Racing; distributed exclusively by General Silicones Group Inc. (626) 338-3815, gsracing.com.



GS Racing shadow ST-1

GS Racing's latest nitro off-roader is this 1/10 scale 4WD stadium truck—Shadow ST-1. The truck features: front and rear gear differentials; a drill-start, a rear-exhaust .18 engine (the pull-start shown here will be replaced); a slipper clutch; a low-CG servo tray; fluid-filled, hard-anodized shocks; and, by the looks of it, the truck should be easy to work on. The ST-1 will probably be available in late summer.

GS Racing; distributed exclusively by General Silicones Group Inc. (626) 338-3815, gsracing.com.

corally power case

Electric racers will want Corally's new aluminum Power Case for hauling batteries, motors and accessories to and from the track. The cases come in three styles: a motor case to carry up to eight motors and eight armatures, a battery case to transport up to twelve, 6-cell packs and a motor/battery case that holds up to four motors, four armatures and 6 packs. The cases' precut foam liners protect your favorite racing products, and two sturdy latches close it tightly.

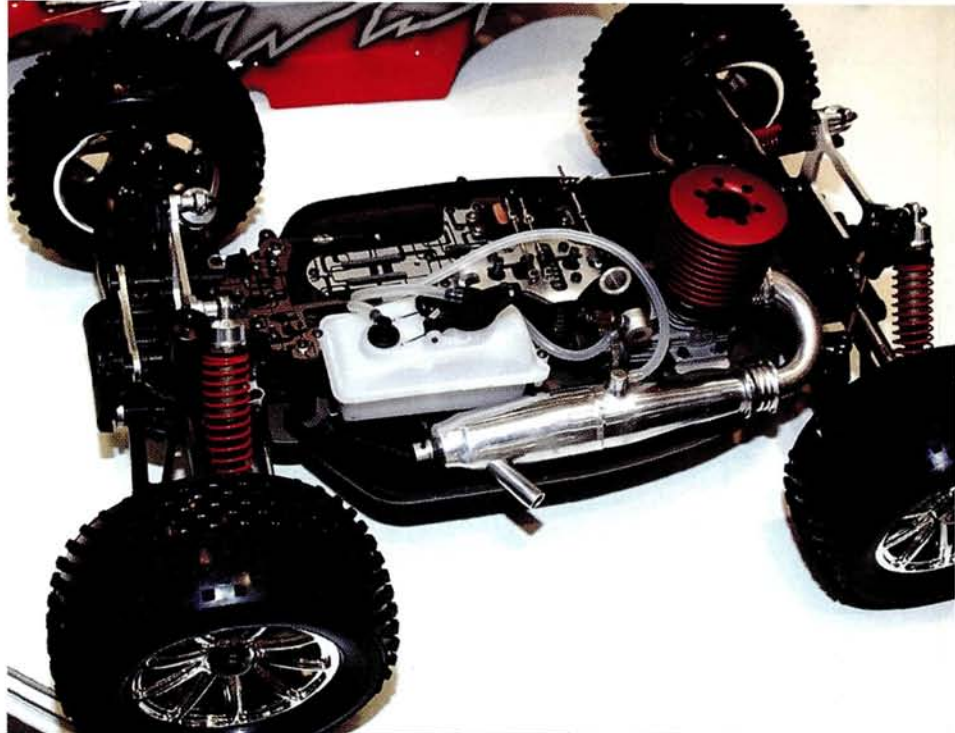
Corally USA; distributed by Specialized RC Intl. (407) 681-5905; corallyusa.com.



Thunder Tiger ST-1 Truggy

The Monster Truck class is growing not only in the number of racers but also in the number of purebred vehicles to choose from. Thunder Tiger's latest ST-1 monster racer is modeled closely after the S3 buggy; however, the chassis, shock towers and suspension arms are longer to better suit monster truck racing. The wheelbase is 20mm longer than that of the S3, so stability on rough tracks shouldn't be an issue. The ST-1 will feature a Pro .28 engine with a shaft-starter, a single-speed transmission (optional 2-speed will be available), narrow stadium truck wheels and tires and the very stiff "Delta-box" channeled chassis. The truck should be available in early to mid-summer—just in time for off-road racing action.

Thunder Tiger/Ace Hobby Distributors
(949) 833-0088; thundertiger.com.



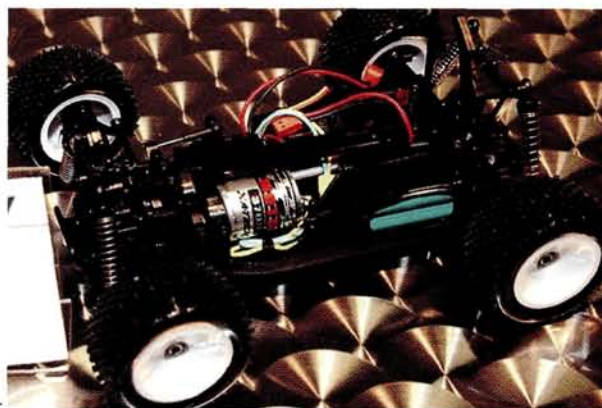
Hitec 2.4GHz Digital system

Hitec now uses digital technology in its new 2.4GHz radio system. The new module and receiver work with all Hitec modular radios and with some Futaba modular radio systems. The receiver has a built-in fail-safe and a low-battery warning light. Hitec reps confirmed that the system will also be developed for other popular radios. This product will be on hobby-shop shelves by the time you read this. Hitec RCD Inc. (858) 748-6948; hitecrd.com.



Schumacher mini truck & buggy

Schumacher brings two new players into the 1/18-scale scene, and you'll want to add them to your wish list. The mini buggy and mini truck come ready to run and feature shaft-driven 4WD, front and rear bevel-gear differentials, front and rear double-wishbone suspension and ball bearings.



Schumacher will offer several hop-ups that include fluid-filled shocks, Duralumin pinions, titanium turnbuckle sets, ball

diffs and modified 370 motors.

Schumacher USA
(813) 889-9691;
racing-cars.com.

spintec battery manager

Spintec's Battery Manager is more than just a discharger. This little unit displays battery run time, voltage, capacity and internal resistance. It discharges at 35 amps, stores your last discharge and saves the best numbers for comparison with subsequent discharges. The technology that Spintec dubs "Coolflex" protects your cells by preventing the battery from overheating during discharge. Racers in Europe and a few pro's here in the States swear the unit wakes up batteries and causes them to produce more punch.

Spintec; spintec.nl.

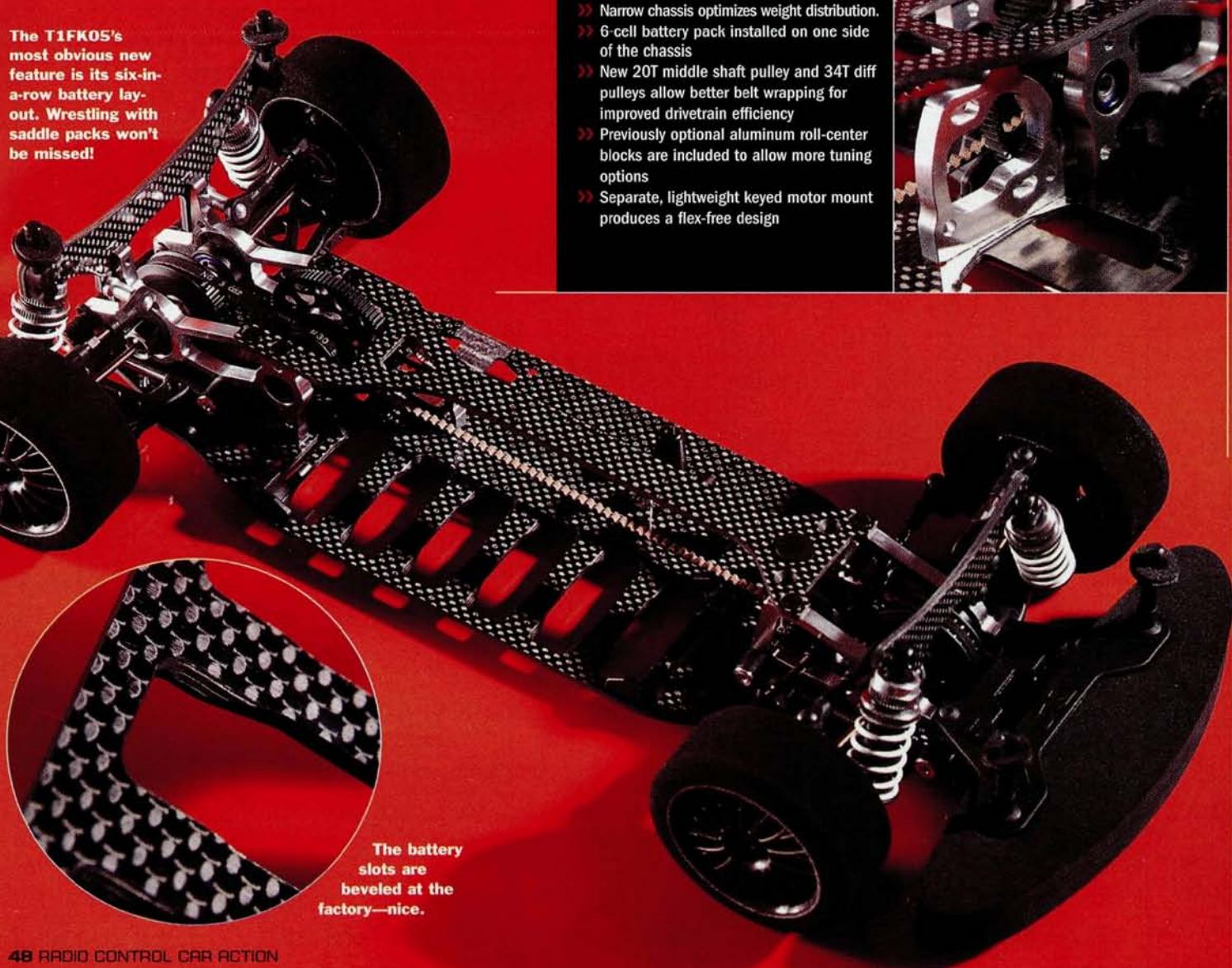
MUST-SEE XRAYs!

T1 Factory Kit 2005

Team XRAY is preparing to release the fifth generation of the venerable T1 competition electric touring car—the T1 Factory Kit 2005, or “T1FK05.” This state-of-the-art machine features an entirely new chassis configuration that improves performance and increases the range of adjustments and tuning options. The chassis also features a new battery position: a 6-cell pack is mounted on the right side (instead of using a 3x3 saddle pack). In the stock version of the car, strapping tape will hold the battery pack, but extra holes in the chassis, fore and aft of the tape slots, indicate that a graphite battery strap will be available for those who don't want to use tape.

Also unique to this '05 machine is that diff height is adjustable. When roll-center and ride-height adjustments are made, the diff height can be adjusted to keep the driveshafts level for optimum efficiency; alternatively, the driveshafts' angle can be manipulated to produce more or less rear bite under acceleration.

The T1FK05's most obvious new feature is its six-in-a-row battery layout. Wrestling with saddle packs won't be missed!



The battery slots are beveled at the factory—nice.

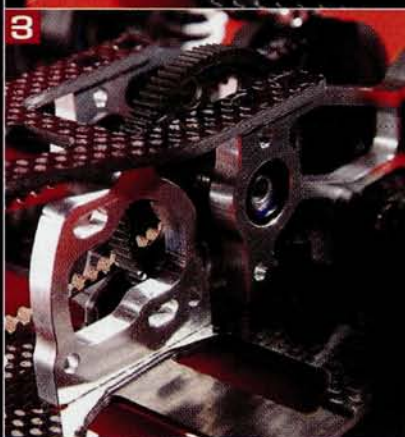
1. Note Hudy's Spring Steel turn-buckles and driveshafts and the offset insert that holds the diff and allows diff-height adjustments.

2. Standoffs replace the telescoping ball studs of previous T1s, and an extra hole lets you change the roll center at the inboard end of the turn-buckle. The hub carrier uses a vertical ball stud for more precise adjustments.

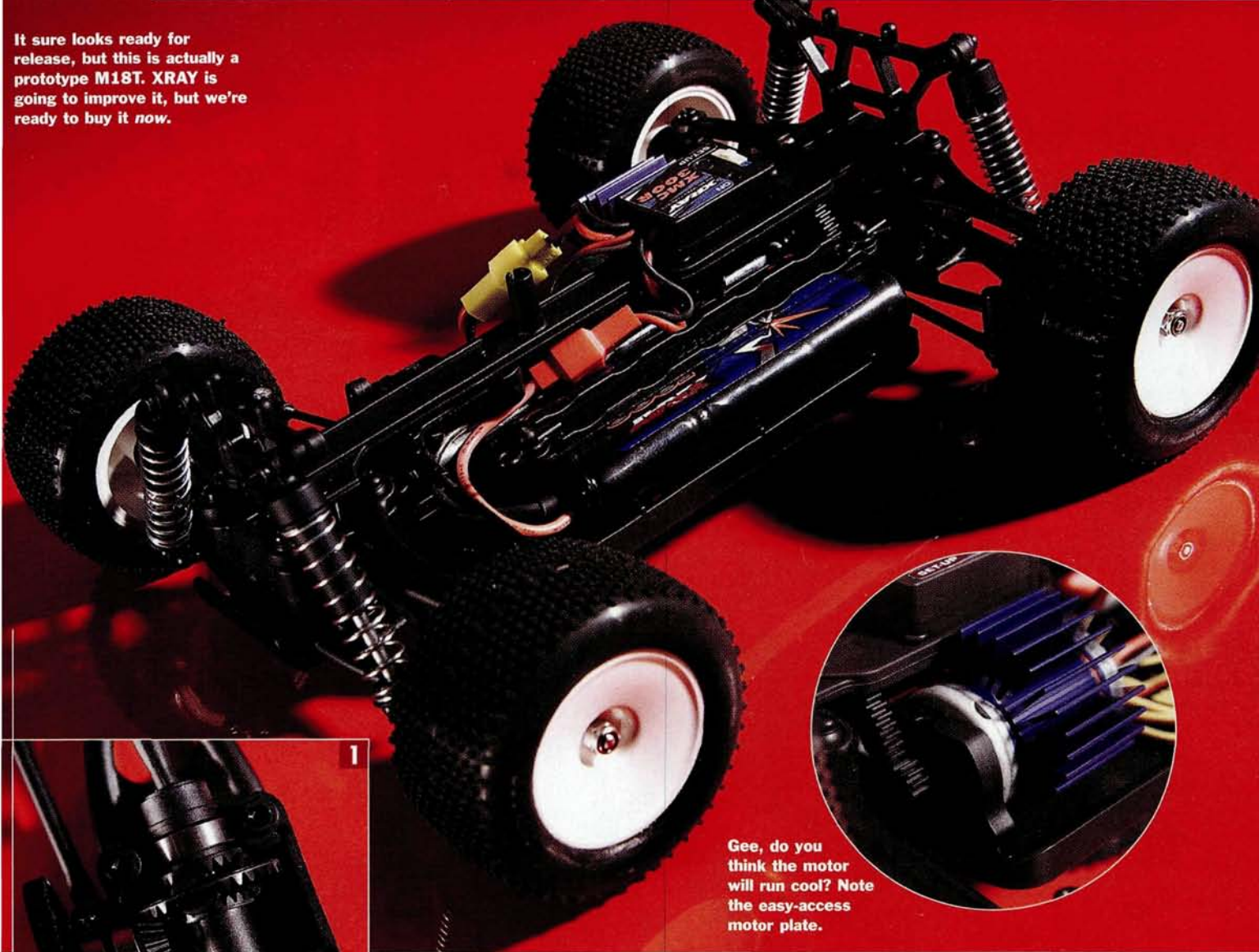
3. The T1FK05's smaller spur gears allow a much lower layshaft. Note the pared-down bulkheads; there's no extra beef on this car. In keeping with the car's low-CG theme, the chassis has been milled for a lower motor position.

FAST FACTS

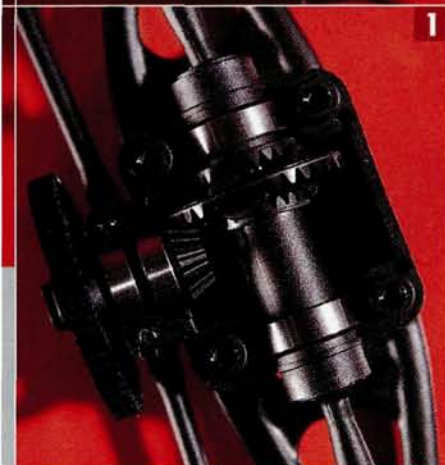
- » Swiss 7075 T6 aluminum and graphite construction throughout
- » New 1.7:1 final drive ratio and 84-tooth spur gear increase gearing options and allow the layshaft to be mounted closer to the chassis for a lower CG
- » Fully adjustable rear diff angle and height allows you to quickly dial traction in or out.
- » Adjustable bellcrank post allows changes in Ackerman settings
- » Ultralow CG
- » New ultralight 7075 T6 Swiss aluminum bulkheads with integrated belt-tension adjustment
- » Narrow chassis optimizes weight distribution.
- » 6-cell battery pack installed on one side of the chassis
- » New 20T middle shaft pulley and 34T diff pulleys allow better belt wrapping for improved drivetrain efficiency
- » Previously optional aluminum roll-center blocks are included to allow more tuning options
- » Separate, lightweight keyed motor mount produces a flex-free design



It sure looks ready for release, but this is actually a prototype M18T. XRAY is going to improve it, but we're ready to buy it now.



Gee, do you think the motor will run cool? Note the easy-access motor plate.



1

1. The shaft-drive system is as simple as it gets: direct drive to the diffs. A gear unit is shown here, but ball diffs will be standard.



2

2. Oil-filled shocks and wishbone arms handle bumps. Note the use of pivot balls instead of hinge pins.



3

3. The shocks snap onto molded-in ball studs. The prototype offers two positions on each arm.

M18T

It looks production, but XRAY assures us that the M18T shown here is still very much a proto. It has some of the elements that you'll see in the production vehicle—overall suspension design, drive system and chassis layout—but many details will be changed to make the M18T much more XRAY-like than the vehicle shown here. The finished car will have more suspension and chassis features and modifications that will make it a particularly strong contender in the $\frac{1}{18}$ truck class. Two versions will be offered: kit only without electronics (item no. 380500) and kit with Power Pack (380591—includes metal-gear, high-torque servo, 6-cell battery pack, reversing speed control and 300 motor).

FAST FACTS

- » Shaft-driven 4WD with ball diffs
- » Universal-joint axles
- » 16 ball bearings
- » Independent front and rear suspension
- » Many shock-mounting positions
- » Oil-filled shocks
- » Easily adjustable motor mount
- » Accommodates 5- or 6-cell pack ($\frac{3}{4}$ A cells)
- » Mini-pin tires
- » Includes Hudy Phillips screwdriver



reader's ride OF THE MONTH

Laurence Schaeffer > Oak Bluffs, MA

Tamiya Clodbuster

Laurence owns nothing but Tamiya vehicles, and his favorite is his highly modified Clodbuster that he uses to stomp through the hills. He started off with a JPS Products pro chassis with extra-long cantilevers and added an ESP front tube bumper, skidplates and a rear wheelie-bar setup. Other mods include a Thunder Tech wheel-widener kit, a locked rear diff, ceramic ball bearings throughout and Pro-Line 40 Series Outback wheels with Big Joe tires. An HPI El Camino body tops it off. For the guts of his creation, two Team Orion 14-turn motors with Tamiya heat sinks are powered by dual Peak Racing 3000mAh battery packs. The packs are wired in parallel and are controlled by a Novak Super Rooster ESC and Hitec Aggressor radio system.

Andrew Parks > Maple Heights, OH

Mugen MTX-3 Prospec

Andrew tells us that he loves to race his MTX-3 and that he has been impressed with its performance from the very first race he entered it in. He uses a Phantom 12R engine with an RDLogics Turbo II one-piece tuned pipe and a bunch of other Kawahara, Mugen and RDLogics performance option parts. A JR XS3 transmitter and Hitec HIS-03MK 3-channel receiver keep his car under control.



Derek C. Osorio > Sleepy Hollow, NY

Team Associated RC10GT

Derek was tired of seeing tricked-out monster trucks, so he wanted to change things up. He sent us pictures of this sweet-looking RC10GT; his goal was to load it with aftermarket aluminum swag and basically rid the chassis of all plastic. GPM, Megatech and Trinity anodized-blue aluminum chassis components were used along with Lunsford turnbuckles, an MIP stinger and CVDs, Robinson Racing gears, an RC Screwz stainless-steel screw kit, OFNA fuel tank, O.S. CV-R .18 engine and New Era aluminum rims. Nice work; how's that VISA bill looking?





Brett Waudby > Auckland, New Zealand

Serpent 710

It is always cool when we get submissions such as Brett's Serpent 710 from across the globe. Brett has his competition nitro touring car ready to race with a modified Novarossi engine to squeak out even more power. He also dropped in two Futaba servos for the steering and throttle/brake duties, and he pilots it with a KO Propo EX-10 Helios transmitter.



Nestor Escribano > Virginia Beach, VA

Traxxas T-Maxx

Having a goal is a good thing, and Nestor's goal is to build one project vehicle a year. Here is his most recent: a tricked out Traxxas T-Maxx. He replaced the stock engine with a Picco .21 and beefed up the drivetrain with a Robinson Racing lightened spur gear, double-disc slipper kit and vented flywheel and a Traxxas forward-only gear kit and hardened-steel clutch bell, DuraTrax skid-plates, IMEX wheels and RPM suspension arms complete the list of mods, and a Pro-Line GMC Sierra LP body is the finishing touch.

POWER UP YOUR RTR!

#700 Reedy "Rated-X" Sport Pack, GP 3300 cells

ONLY \$64.99 Suggested Retail Price

Reedy "Spec 19 Quad-Mag Motor.

Step up the power of your RTR with Reedy's Quad-Magnet "Spec 19" Motor! A great choice for the B4 RTR, the TC3 RTR, or any Ready-to-Run electric with a speed control rated for a 19-turn or less motor.

#513 Reedy Spec 19 "Quad-Mag" Motor



Reedy's "Rated-X" Matched Sport Packs. Fully assembled in clear tubes so you can see the matching info right on the label of each cell. Don't settle for "mystery" cells in your sport packs, get Reedy's "X-Rated" packs and see the power you've been missing!

Reedy Ni-MH Receiver Packs for Nitro Cars and Trucks.

Reedy receiver packs give you the long-lasting, reliable power needed for nitro racing, and have a great low price that makes them your BEST choice!



#615 Reedy Ni-MH Receiver Pack, (Hump style for RC10GT, Monster GT, Etc.)

#614 Reedy Ni-MH Receiver pack, (Flat style for Nitro TC3, etc.)



#699 Reedy "Rated-X" Sport Pack, Panasonic 3000 cells



Robert Mychak > Shenandoah, PA
Team Associated RC10T Conversion

Believe it or not, the vehicle sitting under this '66 Chevy Nova started out as a RC10T stadium truck. Robert is quite handy at machining aluminum so he fabricated a complete solid-axle, direct-drive rear end as well as a complete aluminum front end modeled after a pan car. He also made his own body mounts and wheels. These changes allow the car to sit lower to the ground, and it's able to handle some sick horsepower for drag racing. A Novak Super Rooster ESC with a Trinity battery pack feeds power into a modified motor that uses Trinity's D6 can and endbell with an 8-turn, double hand-wound drag armature.

Creighton Southwell > West Point, UT
HPI Savage

So what can you do with your monster truck when it rains for nine days straight? You can paint a new body for it. That's what our man Creighton did, and he ended up with this sweet-looking HPI 1969 Dodge Charger. A Team Orion Wasp engine, OFNA fail-safe and triple rate springs are under the charger lid, and Creighton says the local BMX track is his favorite stomping ground.



SEE YOUR RIDE IN READERS' RIDES!

We want to see what you're driving! Email your 300dpi TIFF or JPEG images to readersrides@airage.com, or send color prints (no Polaroids, please) to Readers' Rides, 100 East Ridge, Ridgefield CT 06877-4606 USA. Be sure to write your name, address and phone number on the back of each photo. Submissions will not be returned; we keep them to stick on the fridge.

Mini-MAX

Reedy Hop-Ups for Micros!

ONLY \$42.99 Suggested Retail Price



Reedy Mini-Max High-Voltage 1100 Ni-Mh Racing Battery Pack. Higher voltage means more power and that's just what you get with Reedy's new Mini-Max 1100s. Featuring much higher voltage output than stock battery packs the Mini-Max HV 1100 pack is the ticket to making your micro car rip up the road. Comes completely factory assembled with connector and fits directly into the RC18T! **#616 Reedy Mini-Max 1100 Ni-Mh Battery Pack**



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Reedy Mini-Max Modified Motor. Seriously turn up the heat in your micro with the Reedy Mini-Max Mod Motor. Big time features like ball bearings and replaceable brushes are shrunk down to the popular 280-size to fit most 1:18 vehicles, especially the RC18T. **#290 Reedy Mini-Max Modified Motor**

www.rc10.com/reedy

REEDY

A Division of Associated Electrics
 3585 Cadillac Ave. Costa Mesa, CA 92626



Fuel-tubing shock bushing

If you lose the plastic or metal shock bushing in the shock cap, substitute a 3mm slice of fuel tubing.



Cheap exhaust-tip plug

To prevent oil and fuel from spilling out, use a foam earplug as an exhaust-tip plug. Push it into the exhaust tip after you've finished running your vehicle for the day, and you won't have to worry about spilling fuel and oil and making a mess.



YOUR TIP

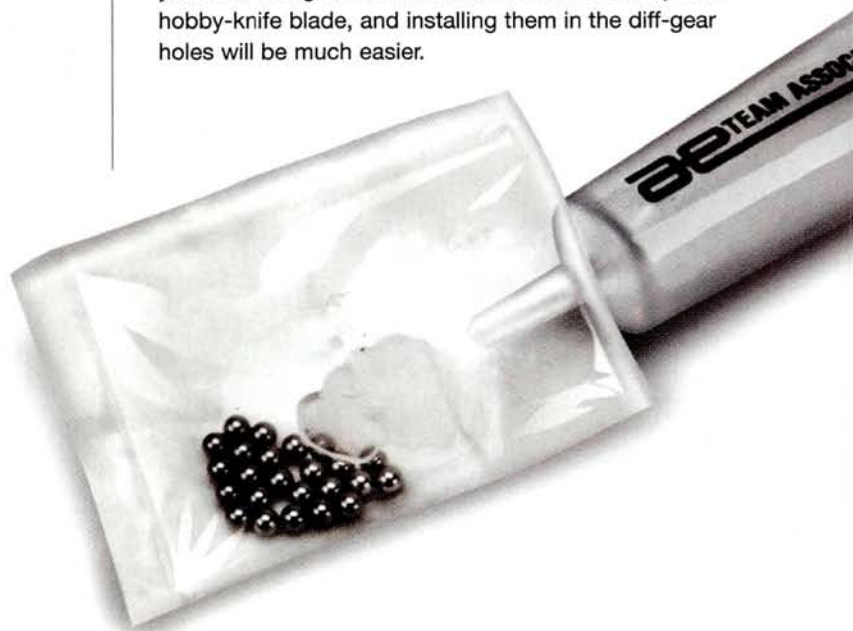
Revo air scoop

Joe Nguyen > Cypress, TX

Here's a great tip for Revo owners. The stock Revo body has an air scoop molded in its left side, and you can open it to provide additional engine cooling. Start the hole with a tapered reamer, and then enlarge it with a sanding-drum-equipped Dremel.

No-mess diff-ball greasing

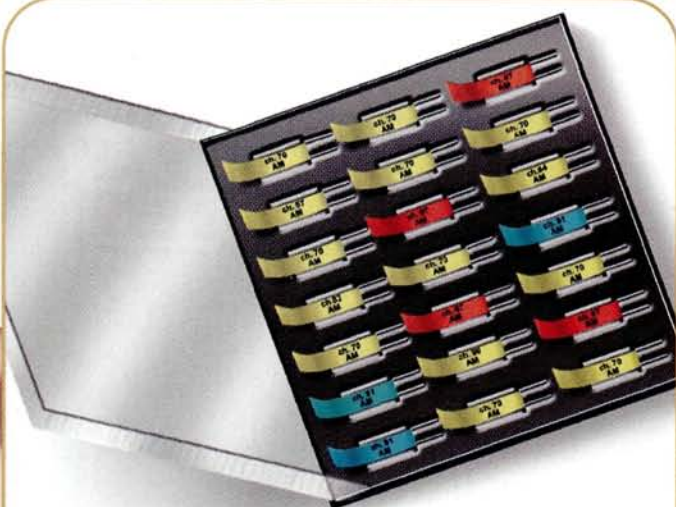
Cut a slit in the bag that the diff balls came in, and then squeeze diff grease into the bag. Work the grease around the balls, and then remove them one at a time as you build your diff. The greased diff balls will stick to the tip of a hobby-knife blade, and installing them in the diff-gear holes will be much easier.





Easy decal application

When installing large decals, use the decal's paper backing as a handle, as shown. You can also use the backing to burnish the decal after you've applied it.



YOUR TIP

Jewel-box crystal case

Norbert Carter > Bridgeport, NY

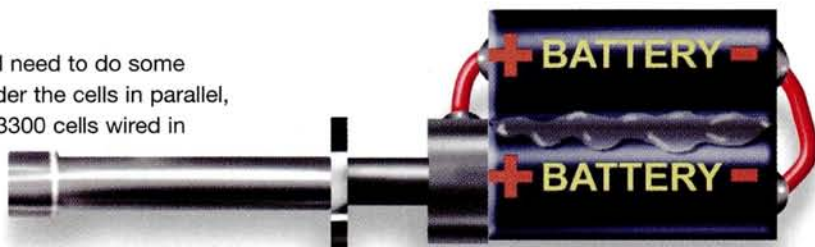
Here's a clever way to keep your crystals safe and organized. Take a CD jewel case and remove the section that held the CD. Next, use a hobby knife to cut out small squares of thin foam rubber (toolbox drawer liners work great) as shown. A typical jewel case can easily hold 35 crystals.

YOUR TIP

High-capacity glow igniter

Hendra M. Prawira > Indonesia

Add a cell to your glow igniter to double its capacity. You'll need to do some grinding and soldering, but the results will be worth it. Solder the cells in parallel, as shown, and use Shoe-Goo to glue them together. Two 3300 cells wired in parallel will provide 6600mAh. That's enough to last for weeks of racing.



Ziploc air-filter holder

Pick up a few spare air-filter elements and store them in a Ziploc bag. Pour air-filter lube into the bag, and you'll always have filters ready when you go racing. The oil won't leak out, so you won't end up with a mess in your toolbox. Use the bag only to store clean, lubed filters.



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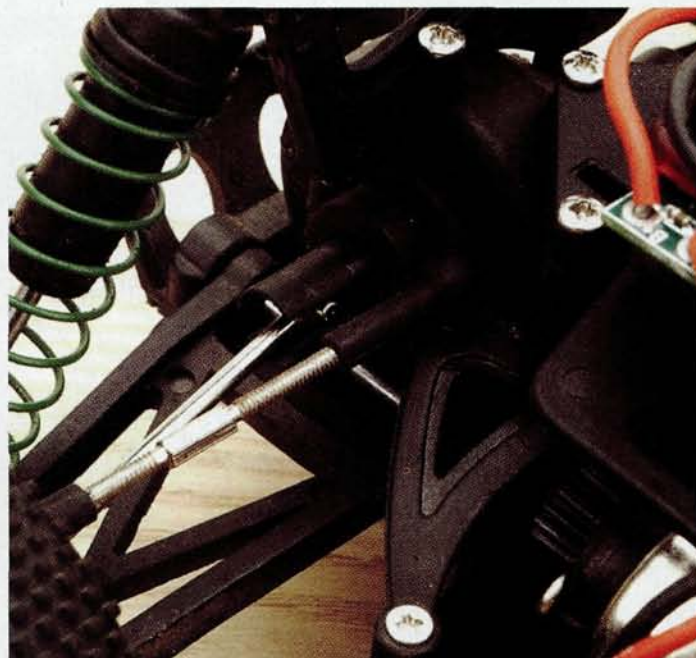


Q Funky camber rise

I have a Trinity Itsy Bitsy Spider Pro that I've set up with a Team Orion Baja motor, a Novak Spy ESC and GP 1100 batteries. I also installed Losi Mini-T oil-filled shocks and a Hitec HS-81MG servo, and I control the truck with a Hitec SRX radio system. All of the components work great, and the truck is really fast, but for some reason, it spins out in the corners. I noticed that the rear tires lean outward when the suspension is compressed and thought that maybe my car was built incorrectly, so I checked the instructions and found that everything is the way it is supposed to be. I took the car to my local hobby shop and compared it to a new IB Spider off the shelf. The new car has the same problem. Is there any way to correct this?

[Email] Tony Giordano

A I noticed the same thing with my IB Spider, so I called the guys at Trinity to get the scoop. They asked me to pass along this easy fix. Remove the rear camber-link ball studs from the shock tower, and then install them vertically on the rear chassis braces (as shown). You'll need to remove the screw that secures the rear portion of the brace to the chassis. Pop the camber links back on the car, and then adjust the length of the link to provide approximately 1 degree of negative camber. The vertically mounted ball stud places the camber link at the correct height, and that eliminates the funky camber rise (or in this case, camber loss). You can now adjust rear roll center by placing shims under the ball joints—sweet!



Installing the ball joints vertically on the rear chassis braces provides the correct rear-suspension geometry and prevents the tires from leaning in or out excessively when the suspension is compressed.

Not enough grunt

Q I own a Traxxas Revo and race it at my local track. Since my track doesn't have separate classes for big-block and truggy-style trucks, all the monster trucks race together. My truck holds up quite well in competition, but the big-block trucks accelerate faster, and that gives them a huge advantage. One of the racers at my track told me I should gear down by installing a smaller clutch bell. Will this provide quicker acceleration?

[Email] Jorge Santos

A Any time you gear down, you will notice a boost in acceleration, but the tradeoff is that you'll lose top speed on the other end. I suggest that you install the close-ratio, 2-speed gears. You'll lose a little top speed by installing this gear set, but the truck will accelerate more quickly by reducing the rpm loss when the engine shifts from first to second gear. Using standard-size Maxx tires instead of the stock or 40-Series hoops will also improve acceleration because the smaller-diameter tires actually lower the truck's final rollout ratio. The smaller tires also weigh less, and that reduces rotating mass. With these tweaks, your truck should be a lot more competitive against the big-blocks.



As you can see, the stock tires and Pro-Line 40-Series wheels and tires are considerably taller than the standard T-Maxx wheel-and-tire combination. Installing smaller tires will provide a lower gear ratio, and the reduction in weight will improve acceleration as well. Installing the optional close-ratio, 2-speed gear set will also boost acceleration.

QUICKQUESTION

I've installed a Novak Super Sport Brushless motor system in my Losi Triple-XT Sport II so I won't have to replace the motor every month. I set it up according to the instructions, but whenever I peg the throttle, the motor surges and then loses power and then surges again. Did I screw something up?

Daniel Summers

Nothing is wrong with your brushless system. You just have it set on profile 5 or 6, which limits the amount of rpm and acceleration for spec racing. The surging is normal, and it's caused by the internal rpm limiter. You will hardly notice it when you drive the truck on the track.

[TROUBLESHOOTING]

High-riding RC18T

Q I'd like to convert my RC18T into a mini monster truck by using bigger tires to raise the ground clearance. I'd also like to install a Cadillac Escalade or some other SUV body. The 18T has really short body posts that don't look as if they can accommodate aftermarket bodies. Does anyone make longer body posts for the RC18T? Also, do you know whether the Trinity Mini Monster off-road tires will fit the RC18T axles?

[Email] Jack Neighler

A You can install Team Associated TC4/Nitro TC3 rear body posts (item no. 2230) on the RC18T's rear shock tower without any modifications. The longer rear body posts will allow you to install SUV-style bodies. In addition to the body posts, you'll need two 4-40x1/2-inch flat-head screws to attach the posts to the shock tower. Trinity Mini Monster

off-road tires fit the RC18T perfectly. You'll have to gear down to accommodate the larger diameter tires; if you don't, the truck will be really slow off the line. The RC18T comes with a 14-tooth pinion gear. Install a 10-tooth pinion gear (item no. 21152), and your mini monster should be good to go.



Attaching TC4/Nitro TC3 rear body posts to the RC18T's rear shock tower will allow you to install SUV-type bodies.

The Pro-Line Escalade body and Trinity Mini Monster off-road tires fit the RC18T perfectly. The extra ride height added by the bigger tires improves the truck's backyard-bashing abilities.

REAL PERFORMANCE PRODUCTS!

T-Maxx/2.5-Maxx Steel Top Shaft

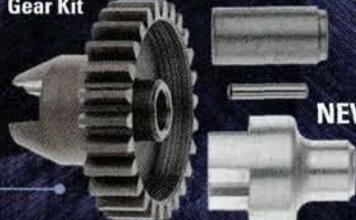
NEW



This precision machined **hardened** steel top shaft will fit all T-Maxx. Includes oversize ball bearing. RRP 8525

T-Maxx/2.5-Maxx FORWARD ONLY Steel Gear Kit

NEW



This kit contains a 26T **hardened** steel output gear, a forward drive hub adaptor, steel spacer and pin. RRP 8586. **Hardened** aluminum version RRP 8585.

T-Maxx/2.5-Maxx Hardened Forward Primary Gear

Precision machined from solid steel and then **hardened**. RRP 8529. **Hardened** aluminum version RRP 8528.

NEW

www.robinsonracing.com

T-Maxx/2.5-Maxx Forward Primary and Reverse Gears

NEW



This kit contains a precision machined **hardened** steel primary forward gear, a **hardened** aluminum reverse gear and pin. RRP 8521

T-Maxx/2.5-Maxx Primary Reverse Gear

This gear is precision machined from solid aluminum and **hardened**. Includes pin. RRP 8522

NEW

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T/E-Maxx/2.5-Maxx Accessory Spurs



A wide range of spurs fit our Double-Disc Slipper Kits. Choose from machined Super-Tough plastic spurs in 66, 68, 70, 72, 74 and 76T sizes, RRP 82XX, or CNC machined steel spurs available in 65, 72 and 76T sizes, RRP 83XX. Small Clutch Plate/Gear Adaptor fits 65 thru 70T spurs. Large Clutch Plate/Gear Adaptor fits 72 thru 76T spurs.

T-Maxx/2.5-Maxx Lightened Spur And Double-Disc™ Slipper Kit



RRP's NEW line of Lightened Spur and Double-Disc Slipper Kits for Traxxas Nitro and T/E-Maxx/2.5-Maxx trucks are designed to improve performance and increase reliability. This combo incorporates a machined steel or Super-Tough plastic spur, a Vented Aluminum Clutch-Plate/Gear Adaptor, 2 Slipper Pads and Plates to deliver the adjustability you need and the increased performance that you demand. **Complete Slipper Kits** are available in the following sizes: RRP 8166 Slipper Kit with 66T Super-Tough plastic spur (Stock Size) for E-Maxx; RRP 8172 Slipper Kit with 72T Super-Tough plastic spur for Traxxas Nitro; RRP 8465 Slipper Kit with 65T Steel Spur for Traxxas Nitro; RRP 8472 Slipper Kit with 72T Steel Spur (Stock Size) for T-Maxx. Spurs, Clutch-Plate/Gear Adaptor and Slipper Pads also sold separately.

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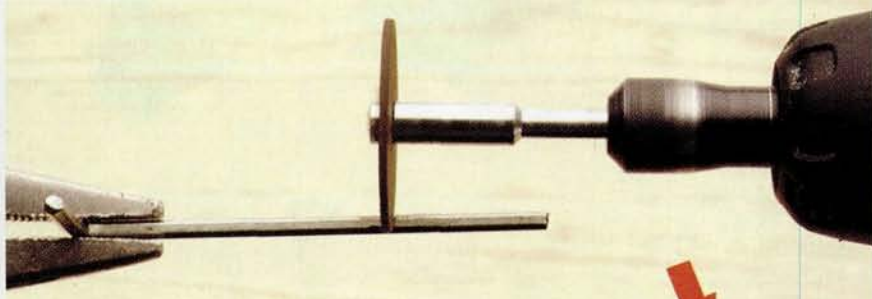


Homemade drive pin

Q Please help. I lost the drive pin that secures the front-center CV axle to the front drive cup/ brake hub (item no. 25053) on my Monster GT. The pin is a standard 2mm width, but it is longer than the drive pins used in the wheel axles. I can't find this pin anywhere, so I ordered a new CV axle from my local hobby shop (item no. 25050) because that's the only way to get the drive pin. It's taking a very long time to get the part, and I'm getting tired of waiting. Where I could get a drive pin that fits?

*Doug Michel,
San Louis
Obispo, CA*

In a pinch, a piece of a 2mm L-shaped hex wrench can be used as a drive pin. Use a Dremel tool to cut the right-size piece from the wrench.



A I've got a quick fix for you. Find a 2mm L-shaped hex wrench and use a Dremel tool fitted with a cutoff wheel to cut it down to the size of pin you need. Be sure to wear eye protection while you cut. Next, loosen the setscrew that holds the pin in place, and install the homemade pin through the holes in the drive cup and the CV axle. Push it through until the tip exits the hole on the other side of the drive cup. Tighten the setscrew to secure the drive pin, and you're done. The hex-shaped pin provides a flat surface for the setscrew to hold onto, so consider this fix permanent.



QUICKQUESTION

I bought a personal transponder because my local track requires them. Unfortunately, I have no open slots on my Traxxas TQ3 receiver. How can I connect this thing?

Shane Westmore

Pick up a Y-connector at your hobby shop and install the male end into the battery slot in the receiver. You'll now have two open slots: one for the transponder and another for the switch harness.

Install the homemade pin through the drive cup and CV axle, and then secure it in place by tightening the setscrew.

T/E-Maxx/2.5-Maxx Steel Diff Gear Set



T/E-Maxx/2.5-Maxx differential gear set, includes: 1 beveled pinion gear, 1 beveled spur gear, 4 re-usable stainless steel phillips head screws, 1 tube Associated Black Grease, and a shim kit for spider gears with 10 .003" shims. 2 sets needed per truck. RRP 8590

T-Maxx/2.5-Maxx Aluminum High Performance Brake Kit



New, lightweight aluminum high performance brake kit, includes bigger, more aggressive brake pads and steel backing plates. One piece vented rotor minimizes side-to-side wobble. Also fits newer T-Maxx. RRP 8562. Older style half shafts use Brake Kit RRP 8560.

DON'T SETTLE FOR SECOND!



www.robinsonracing.com

T-Maxx Vented Flywheels



Aluminum vented flywheels move air over clutch bell, improving performance and cooling. RRP 8551 Blue, RRP 8550 Natural Silver. **NEW 2.5-Maxx Vented Flywheel, Blue Only RRP 8552.**

T/E-Maxx/2.5-Maxx Replacement Pinion



This precision machined steel steel pinion fits RRP 8590 Diff Gear. RRP 8591

T-Maxx/2.5-Maxx Hardened Steel Clutchbells



CNC Machined from solid steel these bells are built to last. They take the 5x11 bearing (NOT included). Available in 19T, RRP 8119, 20T RRP 8120, 21T RRP 8121 and 23T RRP 8123.

ROBINSON RACING PRODUCTS

4968 Meadow View Drive · Mariposa, CA 95338 · Voice 209.966.2465 · Fax 209.966.5937

Slipping Roto Start

Q I bought a used HPI Nitro MT2 from a friend that's mostly stock except for the wheels and tires. It ran great for a few tanks, but then something happened to the starting system. The hand-held starter spins the shaft with plenty of torque, but the drive cup installed inside the engine backplate then spins freely without cranking the engine over. Sometimes it will catch and the engine will almost start, but then it begins to spin again. I took the backplate off the engine to inspect the gears, but everything looks OK. What could be causing the problem?

[Email] Billy La Vaughn

A Billy, it sounds as if the hex-shaped one-way bearing installed inside the Roto Start backplate needs a thorough cleaning. If the bearing becomes worn or saturated with grease, or if the starter shaft wears slightly, that can cause the one-way bearing to slip on the starter shaft instead of grabbing it. To remove the grease and leave it squeaky clean, soak the bearing in solvent (motor spray or denatured alcohol). After the bearing has dried, install it back inside the backplate with the flanged edge facing away from the engine. The engine should now fire up without any problem. If the problem returns shortly after you've cleaned the bearing, then it may be time to replace the shaft and bearing. Here are the HPI item nos. for replacement parts: starter shaft: 15129, one-way bearing: 15133.



Remove the one-way bearing from the Roto Start's backplate (left) and soak it in solvent to eliminate the excess oil (above). Reinstall the bearing inside the backplate when it is dry, and your truck should be go to go.



RC10-GT Steel Combo



Precision machined from solid steel, then hardened, this 65T spur and 15T bell combo will last and last. RRP 2365

RC10-GT Hardened Steel Idler Gear



Cut from solid steel stock, this RC10-GT gear is lightened and hardened for super quiet precision and extra long life. Black tranny grease included. RRP 2213

Associated Titanium Stealth Top Shaft



CNC Machined from solid titanium, this super hard, super light top shaft will fit any Stealth transmission. RRP 1512.

RC-10GT Hardened Steel Clutchbells



These steel Clutch Bells are CNC machined from solid steel then the teeth are machined on. This makes the part stronger with less gear "run out". Available in 14T thru 20T, 22T and 24T. RRP 22XX

www.robinsonracing.com

RC-10GT 32 Pitch Spurs



Precision machined from heat-resistant, super tough plastic, these spurs mesh flawlessly with our Clutchbells. Available in 63T thru 67T, RRP 2263 - RRP 2267.

Hardened Diff Gear



Hard anodized, precision CNC machined aluminum diff gear. RRP 1513 RC10-GT

DON'T SETTLE FOR SECOND!

TC3 Ultra 48 Pitch Spurs



Precision machined from heat-resistant plastic, these spurs mesh flawlessly with our pinions. Available in even numbers from 70T thru 80T, RRP 1670 - RRP 1680.



sponsored by

RRP
ROBINSON RACING PRODUCTS

Throttle won't open

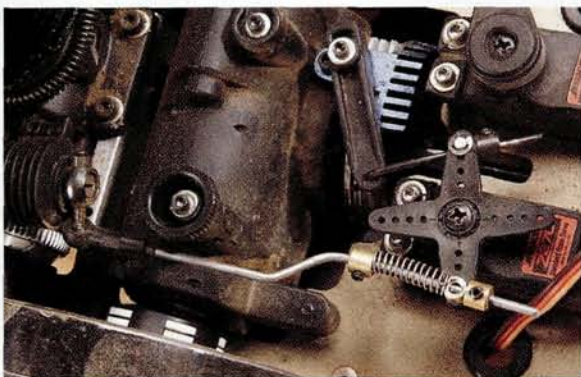
Q I have a problem with my Losi LST. After I installed a new engine, the throttle linkage has trouble opening and closing the carburetor. The throttle opens partially and then gets stuck even when I squeeze the throttle trigger all the way open and then all the way back to full brake. The horn that's attached to the throttle servo seems to move only when I apply the brakes, and it struggles to rotate forward when I apply full throttle. What gives?

[Email] Rcwheelman

A I'm going to assume that you rotated the carburetor a few degrees in both directions before settling on a position that allows the throttle linkage to operate without binding, and that you also adjusted the throttle-arm's ball connector so that it is in the same location as the stock carburetor. If you didn't try these things, start there. If the problem continues after you've made those adjustments, consider replacing the throttle's servo horn (which is basically a two-way servo-saver) with a more conventional rigid throttle

horn and tension-spring setup. There is a possibility that the steel band installed between the original servo-saver halves doesn't have enough tension to open and close the carb, and a different setup could improve that. ■

Installing a more conventional servo horn and tension spring will ensure that the servo opens and closes properly and that the brakes function normally.



TOOLBOX

Hobby Etc.

Ultimate Flywheel Wrench

This wrench secures the flywheel while you tighten or loosen the clutch nuts. It's designed to eliminate stress on the internal engine components and is slotted to fit 2-, 3- and 4-pin flywheels. Made out of high-quality blue-anodized aluminum, it's a great addition to any toolbox.

Hobby Etc. Ultimate

Flywheel Wrench

Item no.—SD81008, \$9

Hobby Etc. Inc.

(603) 883-4919;

hobbyetc.com.



**NEED
HELP?**

Send your "Troubleshooting" questions and comments to troubleshooting@airage.com, or mail them to "Troubleshooting" c/o RC Car Action, 100 East Ridge, Ridgefield, CT 06877-4606 USA.

HPI Savage 21 Nitro Steel Combo



This new 52 tooth Spur and 14 tooth Clutch Bell are CNC machined from solid steel and then hardened for unmatched performance and durability.
RRP 7052

NEW

HPI Savage 21 Nitro Vented Flywheel



Aluminum vented flywheels move air over clutch bell, improving performance and cooling.
RRP 7000

NEW

Stealth Spurs



These precision machined spur gears are super quiet. They're available in 48P in 60T thru 96T sizes, and fit any Associated or HPI electric car or truck.
RRP 1860 thru RRP 1896.

Electric Car And Truck Pinions:

48P Absolute Series Pinions



Super hard, lightened and cut with unmatched precision. Great with any spur, but with an Absolute spur, even on-off noise is gone! Available in 48P in 16T thru 28T sizes. RRP 1416 - RRP 1428.

48P / 64P SuperLite Aluminum Pinions



They're lightened, hard coated and precision cut. Available in 48P in 16T thru 28T, and 64P in 24T thru 38T. RRP 30XX (48P) and RRP 31XX (64P). Only \$5.25

48P Hard Nickel Plated Steel Pinions



These precision cut gears have an extremely hard coating that makes them really last. Available in 12T thru 35T. RRP 1012 - RRP 1035

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www.robinsonracing.com

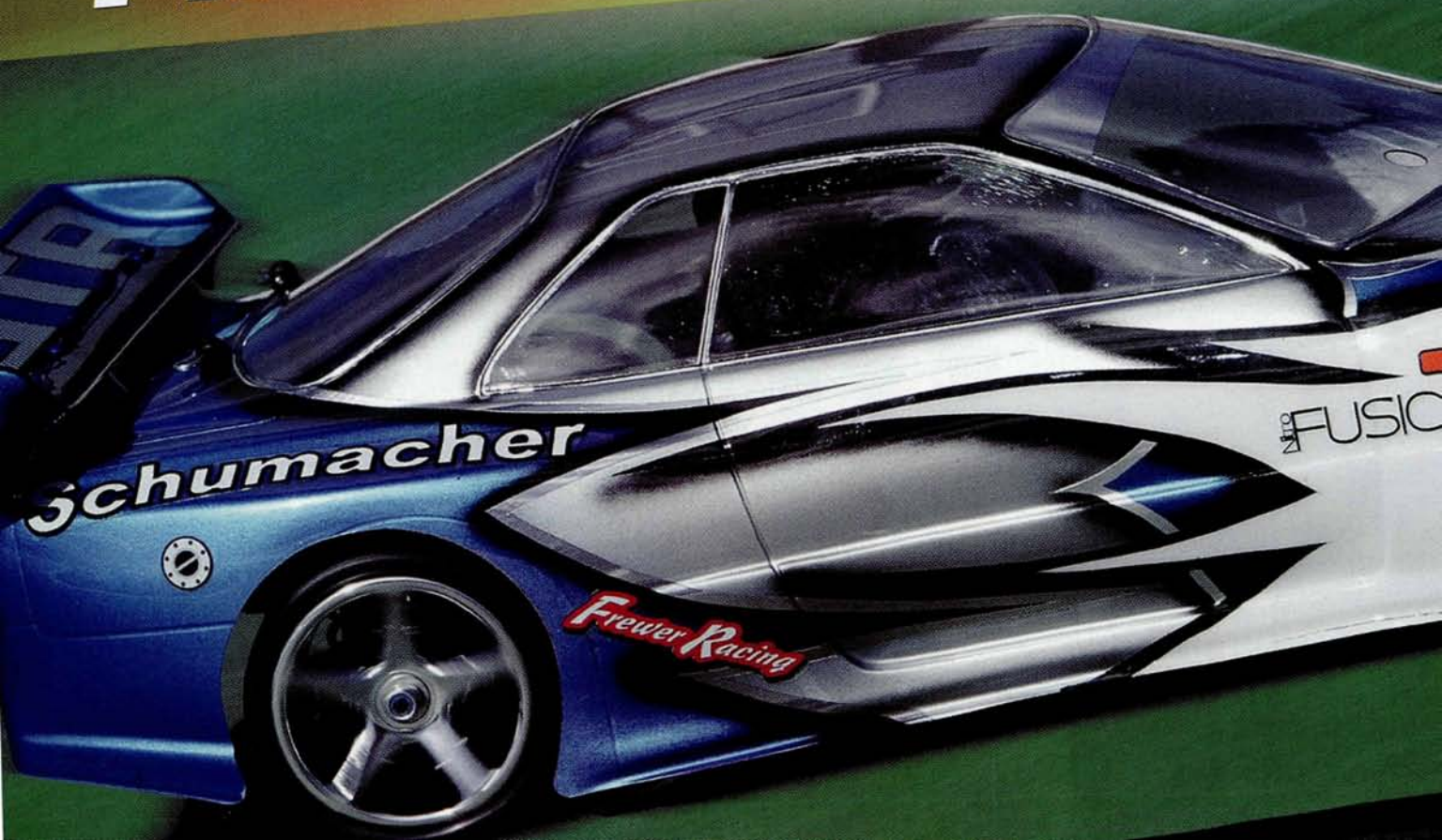
by the RC Car Action Team

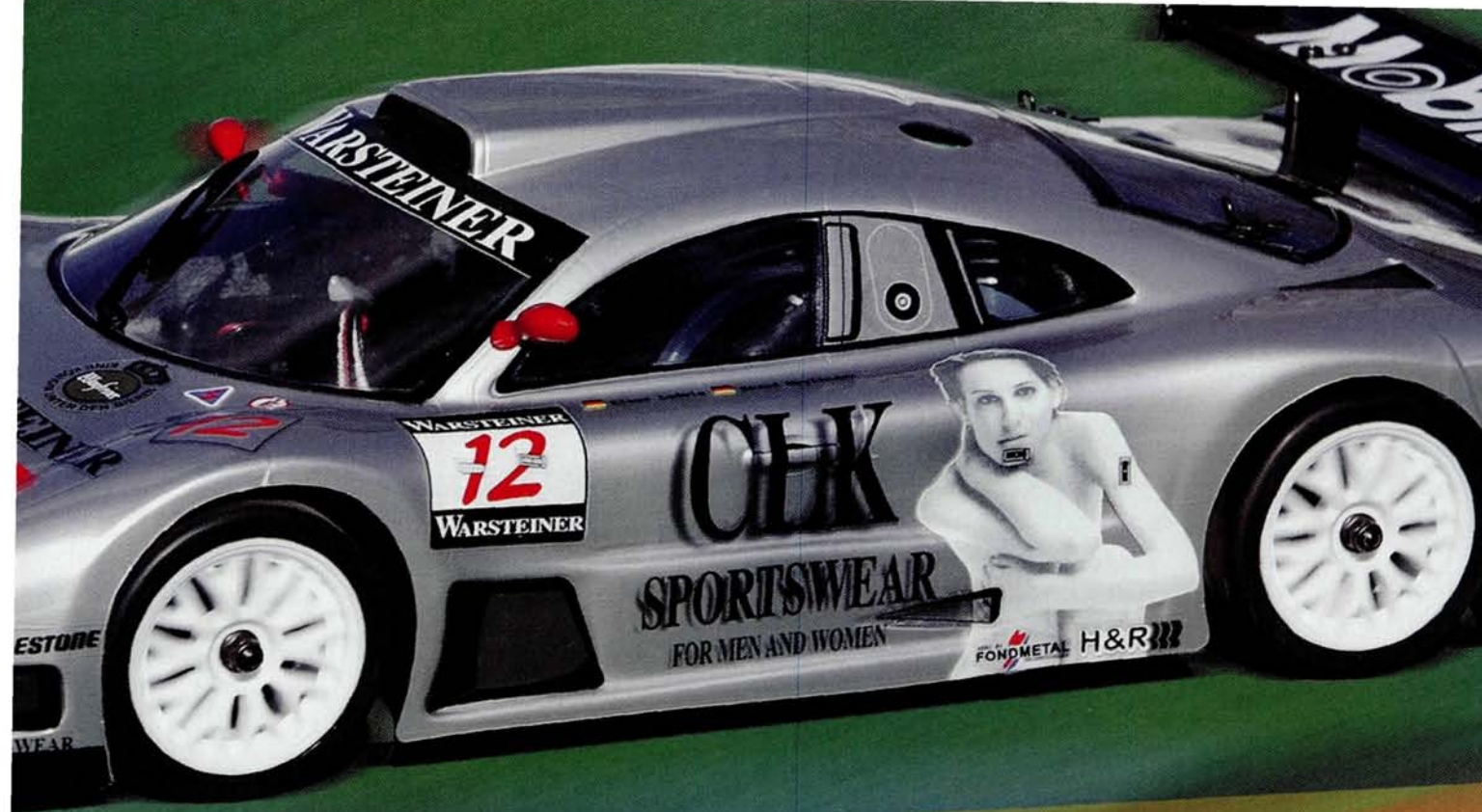
Schumacher Nitro Fusion 21 vs. CEN CT4-S

WHEN YOU'RE OUT HOT-LAPPING THE LOCAL PARKING LOT, what is the number-one question you get from curious on-lookers? All together now, "How fast does it go?" Yep, we've heard it a thousand times, and can you blame them? Nothing is more exciting than speed, especially for an on-road car, and double-especially for a nitro on-road car. This fact isn't lost on the manufacturers, who have taken to putting speed claims right on the box. We've seen "up to 60mph," which is ballistic, but two manufacturers really stand out in the speed wars: Schumacher and CEN. Schumacher's big-block Fusion .21 sedan is rated for a staggering 80mph, while CEN's big-block .15-powered CT4-S punches a 73.4mph hole through the air—according to their manufacturers, that is. We're going to see which is the true King of RTR Speed and conduct some interesting experiments along the way.



HIGH-SPEED





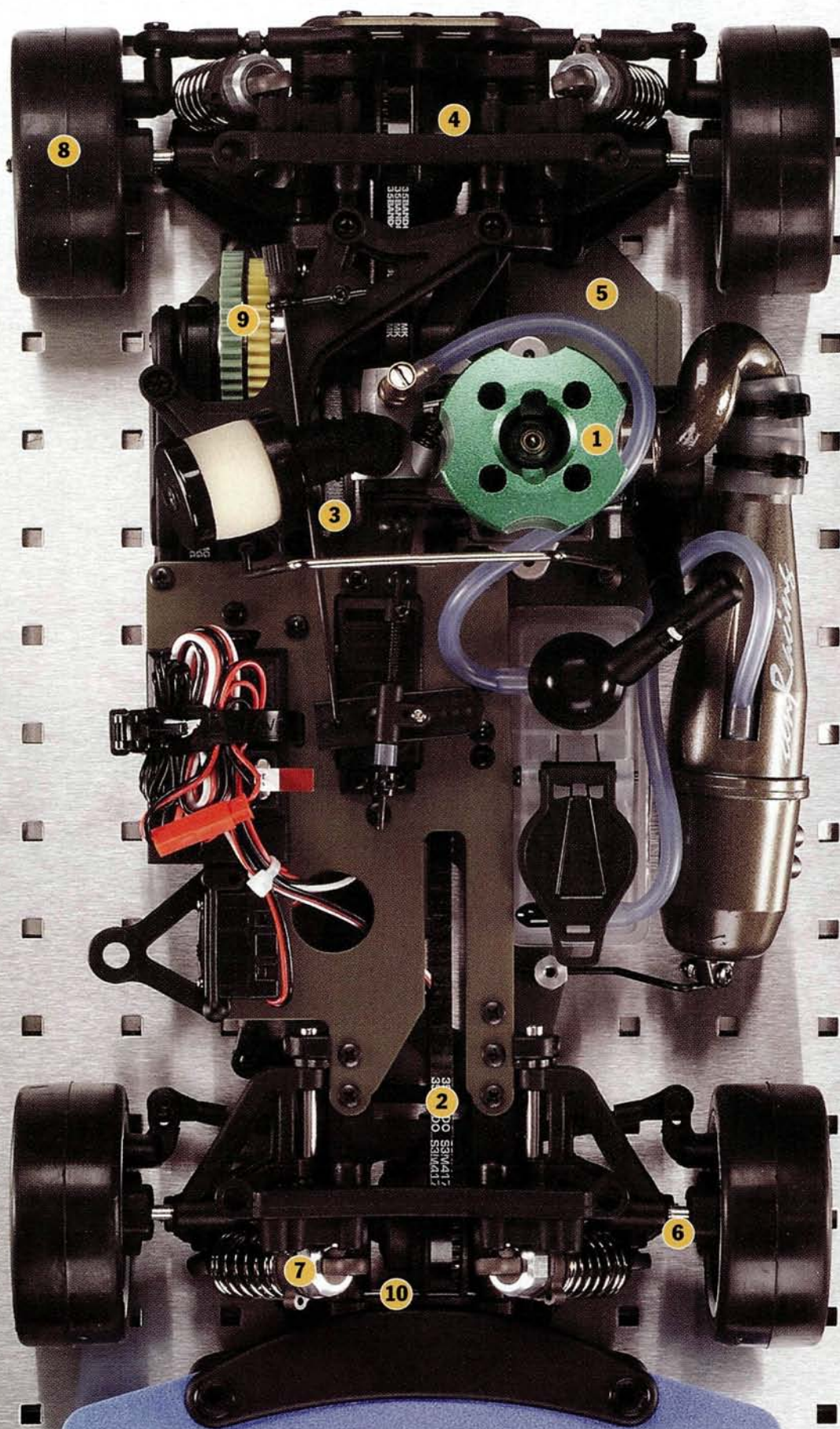
HEAD-TO-HEAD

WHICH IS THE FASTEST READY-TO-RUN?



PHOTOS BY PETE HALL & GEORGE GONZALEZ

CEN CT4-S



BY THE NUMBERS

Wheelbase 10.24 in. (260mm)

Width 7.72 in. (196mm)

Transmission ratio 1.56:1

Final drive ratio 4.368:1 (1st gear);
3.12:1 (2nd gear)

Rollout 66.42mm

Price \$330

INCLUDES

- › CEN Mirage III radio system
- › CEN Mirage III transmitter
- › CEN 82108 "standard type" steering and throttle servos
- › Painted and decaled body
- › Mounted (but not glued) slick tires

REQUIRES

- › 12 AA batteries for transmitter and receiver pack
- › Fuel
- › Glow starter
- › Tire glue
- › Air-filter oil

FAST FEATURES

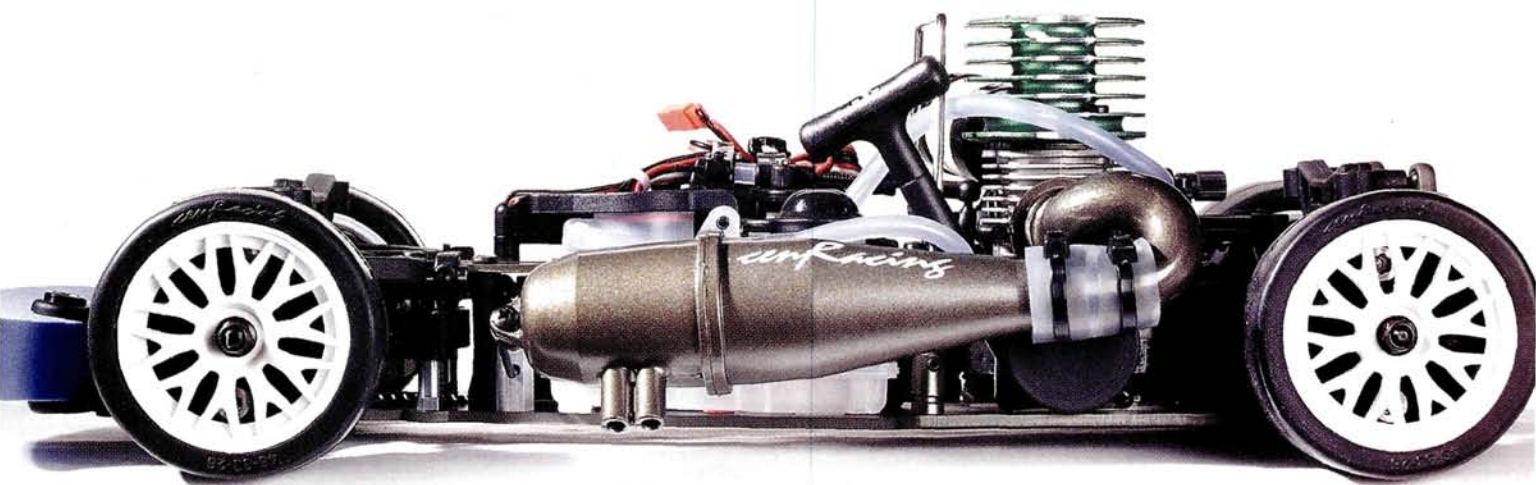
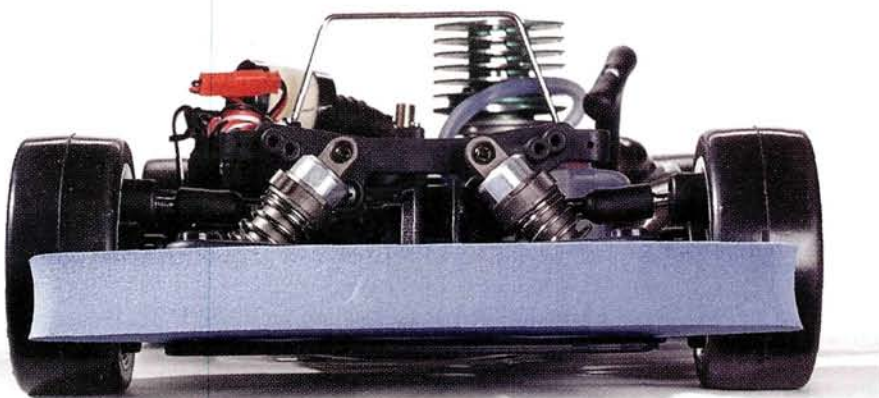
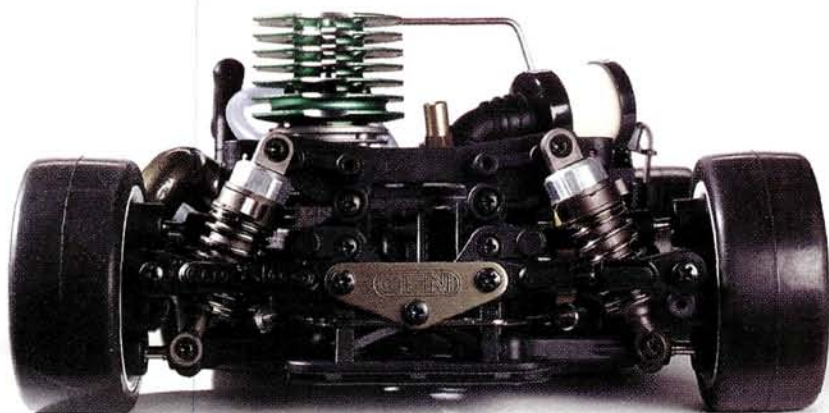
- 1 CEN NX-15, 3-port big block .15 with pull-starter
- 2 3-belt drivetrain with metal- and rubber-shielded ball bearings
- 3 2-shoe clutch
- 4 Front and rear grease-filled, bevel-gear diffs
- 5 3mm hard-anodized chassis
- 6 Pivot-ball suspension
- 7 Fluid-filled, plastic-body shocks
- 8 Soft, slick tires
- 9 2-speed tranny
- 10 Front and rear swaybars



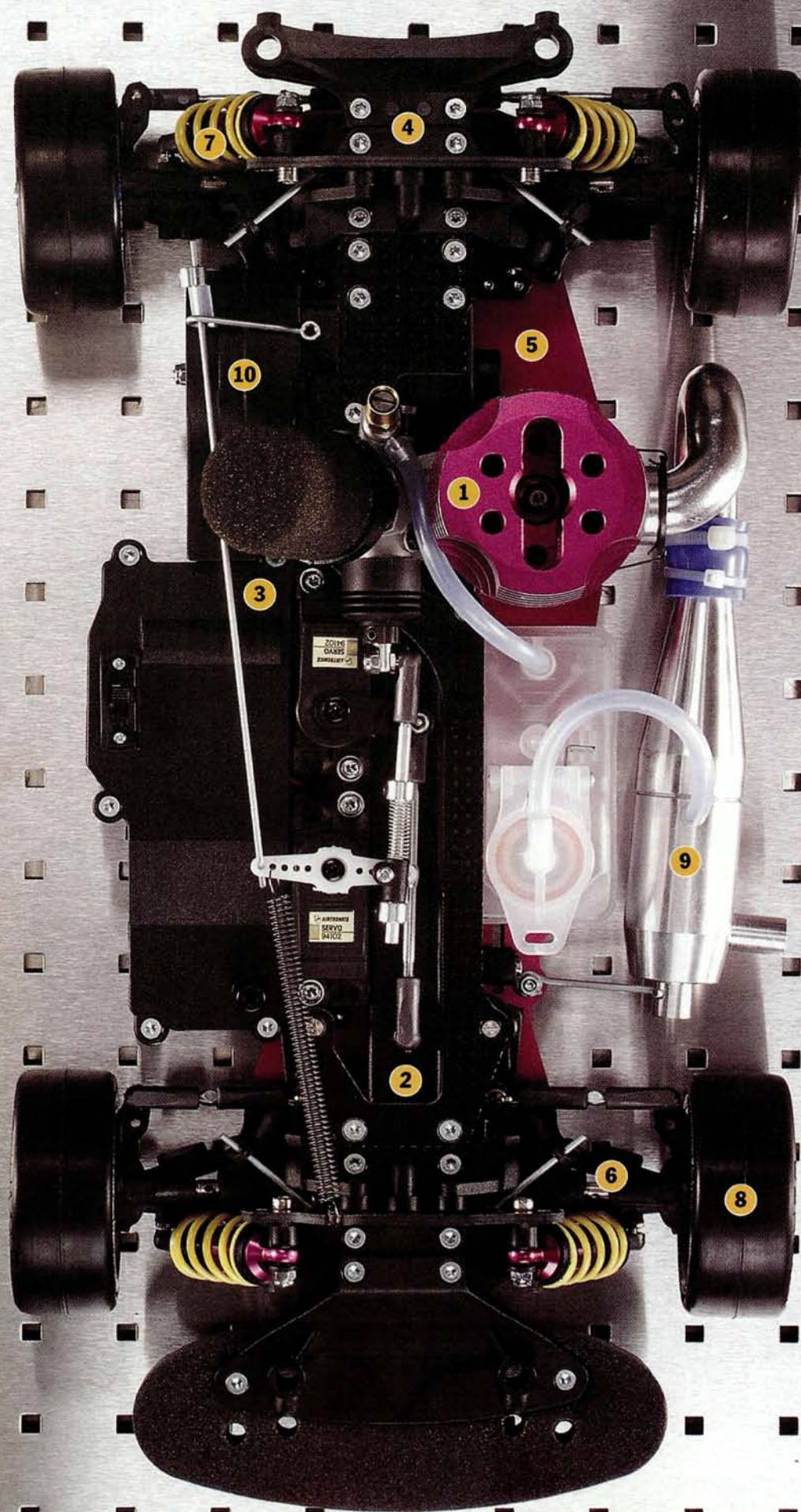


UNDER THE HOOD **CEN NX-15**

The NX-15 displaces .15ci (2.5cc), but it isn't a small-block. Instead, it uses the same "big-block" case as a .21 engine, which allows for a larger diameter crank. A larger crank means a larger induction port, and that means the NX-15 can pump more air and fuel to make more power. The chrome-plated sleeve is a 3-port design, and a dual-needle slide carb makes for precise tuning. At the rear of the engine are the pull-starter and the exit for the exhaust. A bright-green-anodized, 7-fin cooling head makes this engine stand out.



SCHUMACHER FUSION 21



BY THE NUMBERS

Wheelbase 10.25 in. (260.4mm)

Width 7.85 in. (199.5mm)

Transmission ratio 1.8:1

Final drive ratio 5.57:1 (1st gear)/4.39:1 (2nd gear)/3.54:1 (3rd gear)

Rollout 36.09 (1st gear)/45.78 (2nd gear)/56.83 (3rd gear)

Price \$470

INCLUDES

- ▶ Airtronics Blazer Sport 2-channel radio
- ▶ Airtronics 94102 steering and throttle servos
- ▶ Frewer Racing Skyline GTR body (unpainted)
- ▶ Glued high-speed slicks on chrome 5-spoke wheels

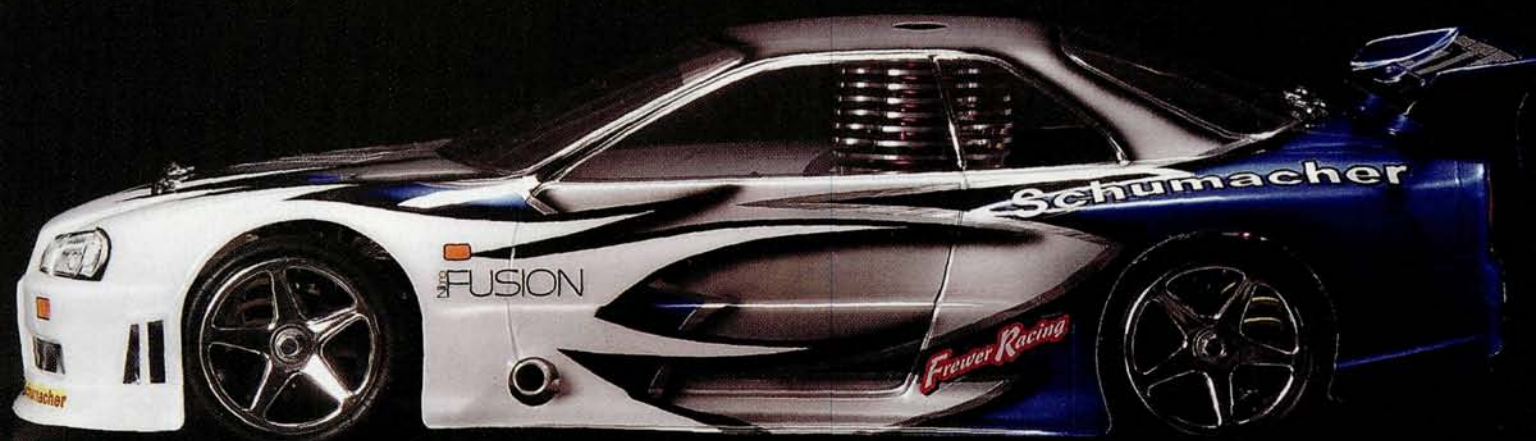
REQUIRES

- ▶ 12 AA alkaline batteries
- ▶ Nitro fuel
- ▶ Cordless drill (for E-Start)
- ▶ Polycarbonate paint

FAST FEATURES

- 1 Thunder Tiger Pro 21 engine
- 2 Single-belt drive with rubber-sealed ball bearings and a heavy-duty 10mm belt
- 3 Large-diameter 2-shoe clutch with wraparound retainer spring
- 4 Adjustable ball differentials with wide aluminum pulleys
- 5 3mm purple-anodized aluminum chassis
- 6 Upper A-arms with turnbuckle links to adjust camber
- 7 Aluminum shocks with foam volume compensators
- 8 Hard-compound slicks preglued on chrome 5-spoke wheels
- 9 Aluminum tuned pipe
- 10 3-speed transmission

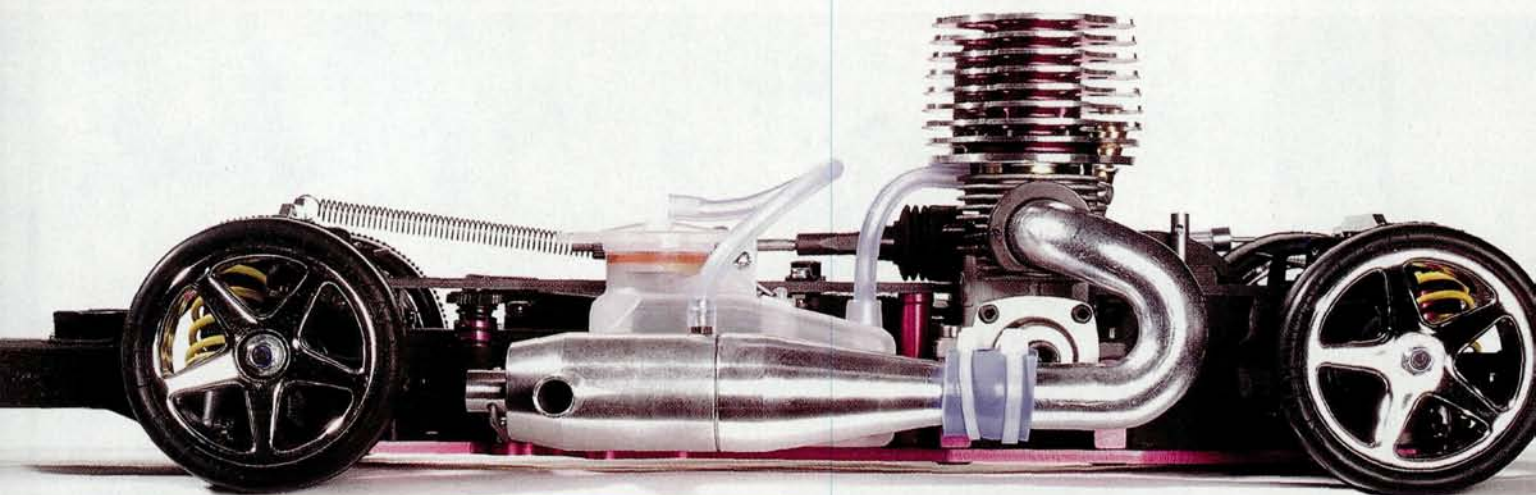
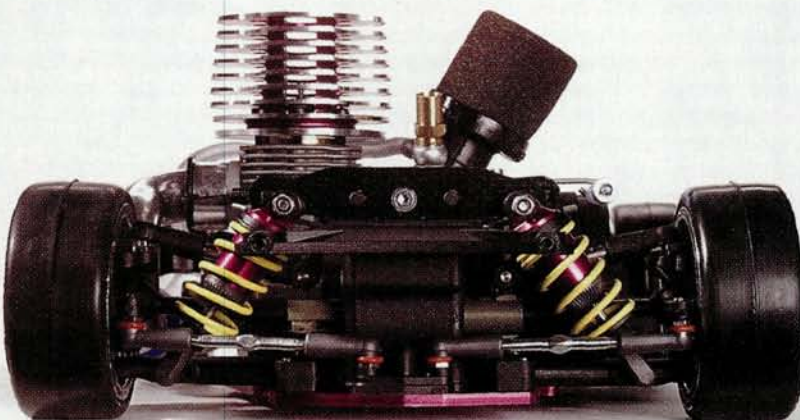




UNDER THE HOOD

THUNDER TIGER PRO 21BX-R

Schumacher went for sheer size by spec'ing a .21 big-block powerplant. Engines of this size are usually found pushing 8-pound off-road buggies to nearly 50mph, so powering the much lighter Fusion past 70mph isn't unreasonable. Thunder Tiger supplies the engine—a Pro 21BX-R. It's a well-proven mill designed for reliability and drivability—not sheer power—but it's still a fire-breather compared to the usual RTR small-blocks. The engine features a 3-port ABC sleeve and piston, 2-needle slide carb and an extra-large cooling head. Schumacher adds its E-start system, which replaces the stock pull-starter with a hex socket for a starter shaft; you supply the power drill to spin the shaft.



THE SCIENCE OF SPEED

$$\left(\frac{\text{RPM}}{\text{FINAL DRIVE RATIO}} \times \text{TIRE CIRCUMFERENCE IN INCHES} \right) \div 1056 = \text{MPH}$$

Going fast is not as simple as gearing up

You can't just install bigger gears and go faster; the laws of physics will eventually catch up with you, and the dream of doubling your speed with a simple gearing change will quickly evaporate. Fear not, however, because with some basic math and some common sense, you can reasonably calculate an approximate top speed for your vehicle.

The key is "rollout," a measurement that takes into account all of the various ratios in the car and then factors in tire size to tell you how far the engine is expected to push the car with each revolution. This figure can then be combined with a reasonable engine rpm (emphasis on "reasonable") to estimate potential top speed.

What is "reasonable" engine rpm?

The point at which peak horsepower occurs is a good starting point. There are some ambitious thinkers among us who automatically default to the highest claimed rpm when making these calculations, but that's very unrealistic because motors and engines often produce the least amount of horsepower at the upper limits of their rpm ranges. You also have to be reasonable about the amount of horsepower produced by your powerplant. A modified brushed electric motor running on 6 cells or even the best small-block nitro engine will not push the average car beyond about 70 to 75mph no matter what the gearing, so keep realistic expectations in mind. It takes about 2.5 to 3hp on average to reach 100mph, and the power requirements go up exponentially with speed; you need four times the horsepower to double the speed of any car.

Estimating speed simply requires dividing a reasonable engine rpm by the final drive ratio, then multiplying by the tire circumference measured in inches. This will give you a speed in inches per minute, and you will have to convert that to miles or kilometers per hour. Use the formula above, or if you're challenged in the math department, we have a speed calculator on our website: radiocontrolzone.com/cars/calculator.asp.



SAME CAR, DIFFERENT RESULTS

As evidenced by our testing, varying results can be expected even when testing the same car with the same engine. In past tests, we've had identical samples of the Fusion up to speeds as high as 74mph (as in the review in the March '03 issue of *RC Nitro*). What is it that makes for such a notable difference in speed?

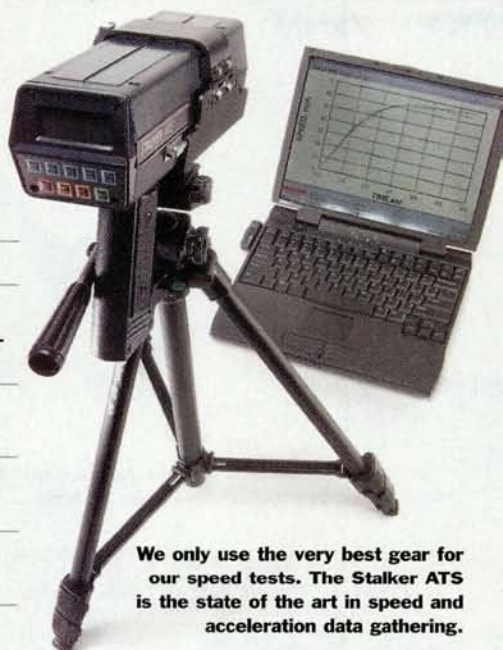
Most RC cars and trucks are gearing for a balance of acceleration and top speed. That means the engine is often revving beyond its capability before it runs out of horsepower. Two identical engines rarely have trouble reaching nearly the same rpm under these conditions. If the engines can reach the same rpm, that means they can reach nearly the same speed—until you start gearing up.

High-speed gearing brings aerodynamics and other factors into play that don't normally exist in the average nitro car. The big gearing of our super sedans often means that the engine will run out of horsepower before it can reach maximum rpm. It's under these conditions that manufacturing tolerances result in varied performance from one engine to the next, and here is where it's going to be most obvious. If you equate it to street cars, just about any street machine—or blender—can do 30mph in first gear, but it's when you get up on the highway in fifth gear that really separates the men from the boys. It's the high stress and loads of running at high speed that highlights the strengths and weaknesses of all engines, even if they appear to be the same.



THE RULES

- > **SAME DAY TESTING.** Both cars were tested on the same day.
- > **STOCK EQUIPMENT ONLY.** The cars will run with their supplied tires and bodies.
- > **MODS ALLOWED.** Any "no extra parts required" tweaks that increased speed were allowed, for example, loosening/removing belt tensioners, dialing out toe-in, reducing ride height, altering shift point, etc.
- > **IDENTICAL TEST GEAR.** Both cars were completed with alkaline AA batteries and Trinity Monster 30%-nitro fuel.
- > **TUNED FOR SPEED.** The engines were fully broken in before radar testing and properly tuned for absolute peak speed.
- > **UNLIMITED DISTANCE.** This isn't a drag race with a finish line; it's a speed challenge. Both cars were allowed as much room as they needed to reach maximum speed.
- > **RADAR TESTED.** All data recording top speed and acceleration was gathered using a Stalker ATS radar system.

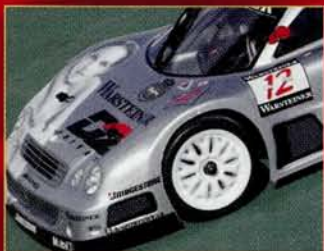


We only use the very best gear for our speed tests. The Stalker ATS is the state of the art in speed and acceleration data gathering.

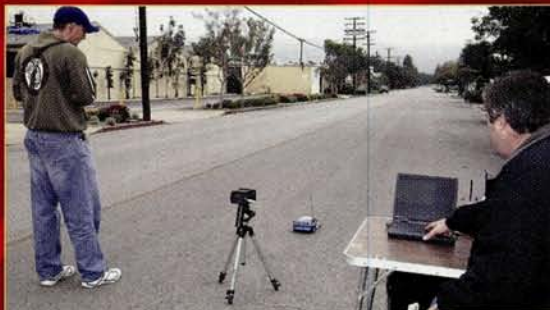
PUT UP OR SHUT UP

CEN CT4-S 67.25mph

This is the surprise car of the shootout. The car now has a similar drivetrain ratio to the custom 100mph car's featured in *RC Nitro* a few years back. In fact, it isn't a stretch to say that the updated drivetrain of the CT4 S is overgeared for the job, pushing an incredible 3.12:1 final drive ratio. The tall gearing shows when the car comes off the line, taking a while to wind up to speed. The engine is clearly capable of pulling the tall gearing, but the CT4 S will use up all of the available space you can find before it reaches top speed. And what is that top speed? Surprise: 67.25mph, just a little more than 1mph faster than the Schumacher Fusion, thus making the CEN the winner of our "strictly speed" contest. But be warned: "fast" and "quick" are two different things, and the Fusion will smoke the CT4 in a drag race because it accelerates so much more quickly.



In terms of overall performance, the CT4-S is a very durable machine. Twice, we put this car into a cement curb, and it only broke an upper link during a hard broadside shot. The only real Achilles' heel for the CT4-S is its radio system. In two previous vehicles, the standard radio routinely lost radio signal at relatively short range. The new CT4-S we tested had a new radio with a much stronger signal to provide the kind of range you need to run a high-speed car, but it had a defective steering-trim knob, so we had to use a different one.



If you wanna go 60-plus, you need a l-o-t-t-a room.

SCHUMACHER FUSION 66.1mph

The Fusion's drivetrain is as diesel as they come, sporting a fat 10mm wide single belt that drives ball diffs. The drivetrain is well protected from the elements by new belt and gear covers.

Acceleration is the Fusion's strong suit. The smoothly shifting 3-speed transmission, the .21 engine's torque and the hard-compound tires make the Fusion a drift car as much as it is a speed demon. Stabbing the throttle hard at low speed creates instant wheelspin, and once the transmission clicks off a gear or two, it gets especially violent. The tires are far from what we'd call sticky, but in some ways, it may better for high-speed control—and the 4WD means that it can still accelerate strongly. It gets off the line quickly and cranks its way up to 50mph more than 2.5 times faster than the CEN, making the Fusion a more versatile car—but not the fastest. Our test car ripped out a 66mph run and easily jumped over 70mph with Schumacher's optional high-speed gearing. We know it's possible for this machine to reach into the 70s in stock trim despite the lower terminal velocity in this test, but this shootout is all about same-day, stock, side-by-side testing, and the Fusion's best was 66.1mph.





The supersize tire rolls 232mm for each revolution. A standard sedan wheel rolls 192mm.

SUPERSIZED SPEED

What's the quickest, easiest way to increase rollout and, potentially, top speed? Bolt on bigger tires. At the very least, your car will get that dub look, but what we're trying to do is help the cars go farther with each rotation, and therefore

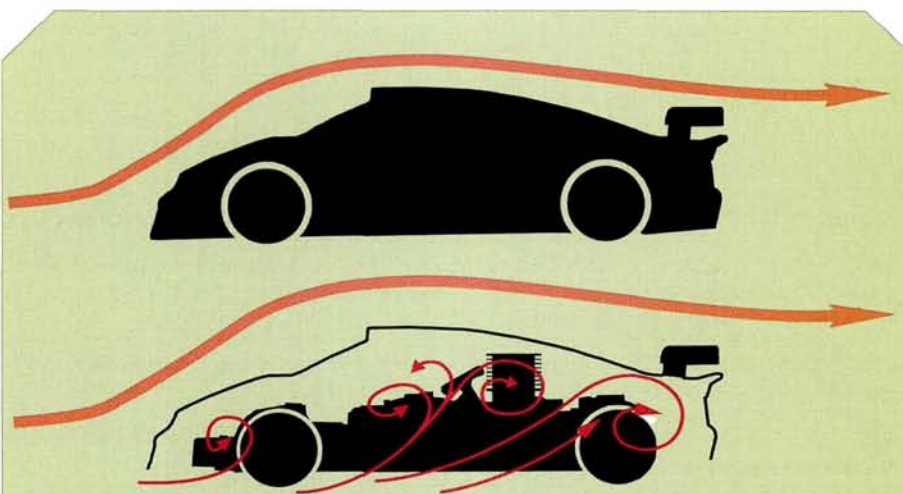


Jason bolts up a set of dubs for another run at the radar.

faster—assuming the engine can maintain the same rpm as it produced with smaller tires. As you've no doubt discovered when riding a multi-speed bicycle, there comes a time when the gearing becomes so "hard" that your legs aren't strong enough to turn the gears, and instead of going faster, you go slower. And so it is with cars, both RC and full-size. You can gear up as much as you like, but if the engine doesn't have the guts, you'll go slower instead of faster. And that's exactly what happened when we outfitted the CEN CT4 S with HPI supersize rubber. Its top speed tumbled from 67.25mph to 58.3mph.

FIND IT

Go to page 244 for manufacturers' contact information



We tend to think of cars as solid forms slicing through the air (top), but they are really open shells covering a very non-aero chassis (bottom).

THE AERO FACTOR

Any racer will tell you how important body selection is for track performance, and we don't doubt it. But are RC bodies slippery enough to increase top speed? Or are the open undersides of RC cars so aerodynamically "dirty" that even the sleekest bodies won't help them go faster? To find out, we ran the Fusion with and without its body. Since aerodynamic drag increases exponentially with speed, even a slight aero advantage with a car as fast as the Fusion will certainly show up on the radar. And it did: the car was exactly 1mph faster without its body, but more of a handful to drive. With less downforce over the front wheels, its steering was much lighter. You could even say the Fusion had negative downforce, because it in fact produced lift when running without the body—as evidenced by its getting airborne on what turned out to be its final run (for obvious reasons—see photo).



Two reasons to leave the body on: one, the car is more likely to stay on the ground. Two, if you do wreck, the body protects the chassis from damage like this. The Fusion is a stout car, but no vehicle can take a 65mph+ flight and not shed a few parts when it comes back down.

What shouldn't be lost here is the objective of this test—speed. Even though the Schumacher handily trounces the CEN in a heads-up drag race thanks to its far superior acceleration, it isn't our winner. Both cars are insanely fast, and it will be hard to find a safe area in which you can realize the full speed potential of either machine. But suffice it to say, there's as much speed as you'll ever need on tap—and then some. We gotta give it up to Schumacher for having such a versatile all-around machine that pretty much kicks butt in all aspects of performance, but when we snuffed out the last engine, the CEN stood a hair taller in this comparison. The big focus of this test was going fast, and the CT4-S simply squeezed out one more mph to take the win. ■

Behind the wheel at last with Traxxas' stadium shocker

YOU SAW IT FIRST IN *RC CAR ACTION*, and now we're the first to wheel the hottest truck since the Revo. The all-new Jato is a ground-up rethink of what a nitro stadium truck should be. It's completely unlike any previous Traxxas stadium machine (nitro or electric) and borrows freely from the Revo's DNA to deliver a blend of racing features, Traxxas' popular convenience touches and TRX 2.5 power in one versatile, high-performance, ready-to-run package. The Jato has a serious stance and a lot of attitude. Let's hope it can back it up in the dirt and on the track!





Traxxas

LFA10

KIT FEATURES

CHASSIS. We're used to seeing 6061 T6 aluminum as a chassis material for nitro trucks, but Traxxas stepped up with a full 3mm of the stuff and radiused the edges for extra strength. The radiused edges also blend nicely with the plastic, buggy-style mudguards that flank the chassis to keep dirt away from the electronic gear. And if that line of defense fails, mud and crud still have to get into a fully enclosed receiver box before they can do any harm. On the rear of the truck, there's a sealed "trunk" for a 4-cell AA receiver pack, or you can run a 5-cell flat pack in an optional position between the fuel tank and the engine. A rollover hoop protects the engine and is also home to the EZ-Start socket. It's accessible with the body on, so you don't have to mess with body clips to start the engine.

DRIVETRAIN. There's a lot of innovation packed into the Jato's transmission. It's the first nitro stadium truck to use a silicone-filled gear differential and the first with an internal, 2-speed transmission. We've seen 2-speeds for trucks before but always in the form of exposed, double spur-gear units "for on-road use only." The Jato's setup is completely internal (and, thus, fully off-roadable), but the pawl-type mechanism is still easily adjustable via a rubber access plug in the top of the tranny.

Being able to adjust the tranny's shift point is a big tuning aid; so is adjusting the differential action. Although it's smaller than a Revo diff, the Jato's bevel-gear diff is constructed in the same way. X-ring seals prevent silicone from sneaking past the output shafts, and a controlled-crush gasket seals the diff case. Because of its compact size, shock-weight fluids are used in the diff instead of the super-gooey weights usually used in 1/8-scale trucks and buggies. Universal joints and telescoping plastic axles link the diff to the rear wheels, and Revo tech is employed here as well. The telescoping shafts have true curvilinear splines that slide much more freely under load than the old square-spline parts of previous Traxxas trucks, and bellows seals keep the splines grit-free.

Another tunable feature is the Jato's Torque Control slipper clutch, which it borrows from the Revo. The heavy-duty design uses cast-aluminum pressure plates and three semi-metallic pads to dissipate heat, and the face-mounted spur gear can be removed without altering the slipper setting.

The Jato's brake system is one of the few areas that give a

INCLUDED ELECTRONICS & ACCESSORIES

TRAXXAS TQ RADIO SYSTEM

We usually bag on this radio for its funky shape and limited tuning options (as in "none," aside from trimming and servo-reversing), but it is dead-nuts reliable, so there. Unexpected bonus: the receiver is a 3-channel unit.

TRAXXAS 2055 STEERING SERVO

This is the "geared for torque" version of Traxxas' standard servo, and it doesn't have any trouble keeping the Jato pointing in the right direction. According to Traxxas, it's good for 80 oz.-in. of torque.

TRAXXAS 2018 THROTTLE SERVO

The 2018 is Traxxas' workhorse standard servo; it has been in everything. It works just fine in the throttle/brake roll.

TUNING DVD

Revo and T-Maxx 2.5 owners are already familiar with this DVD. It lets you see and hear a properly tuned engine in action. There's no better way to learn how to tune the TRX 2.5.

INCLUDED TOOLS

Along with the starter wand for the EZ-Start system, Traxxas supplies all the hex wrenches and tools you need to do routine maintenance, and there are extra air-filter elements and a tube of air-filter oil.

nod to existing truck designs, namely the Losi Triple-XNT. Like the Losi truck, the Jato's brake is integrated into the transmission case, and the rotor is mounted on a lobed hub instead of a hex to better distribute braking force and extend the life of the rotor. The rotor is a thick, semi-metallic cookie that should easily outlast a plastic or fiberglass rotor.

ENGINE AND ACCESSORIES. The TRX 2.5 has earned a spot high on our list of favorite engines because of its prodigious power output and Toyota-like reliability. It has a true-turning pilot-shaft crank, an ABC piston and sleeve and the standard, cast, heat-sink head; the Revo's blue-anodized Type R version is an option. A bolt-on tubular manifold sends gases to a composite-plastic tuned pipe that Traxxas says is tuned to favor



Left: the torque-control slipper clutch came straight from the Revo. The well ventilated, cast pressure plates and three individual pads are designed to shed heat; even with a loose slipper setting, overheating was not a problem.

Right: a short arm squeezes the steel caliper against the semi-metallic rotor for powerful braking action. Also visible is the blue bellows seal on the telescoping drive-shaft.



SPECIFICATIONS

MANUFACTURER Traxxas
MODEL Jato
SCALE 1/10
PRICE To be announced

DIMENSIONS

Wheelbase 11.1 to 11.2 in.
 (283 to 285mm)
Width (F/R) 12.9/13 in.
 (327/330mm)

WEIGHT

Total, as tested 75.6 oz. (2.143g)

CHASSIS

Type 3mm plate with molded side guards
Material 6061 aluminum



The composite-plastic pipe is tuned for torque and well protected by the chassis' mudguard.

DRIVETRAIN

Type Enclosed gearbox
Primary 22T clutch bell/54T spur gear
Transmission ratio (1st/2nd gear) 4.78/1.96
Final drive ratio (1st/2nd gear) 11.73:1/8.75:1
Drive shafts Telescoping universal-joint, bellows-sealed
Differentials Sealed, silicone-filled bevel gear
Bearing type Rubber-sealed ball bearing

SUSPENSION (F/R)

Type H-arm with upper camber link
Shocks Fluid-filled, composite, threaded body

WHEELS

Type Traxxas 2.8-in., 5-spoke chrome

TIRES

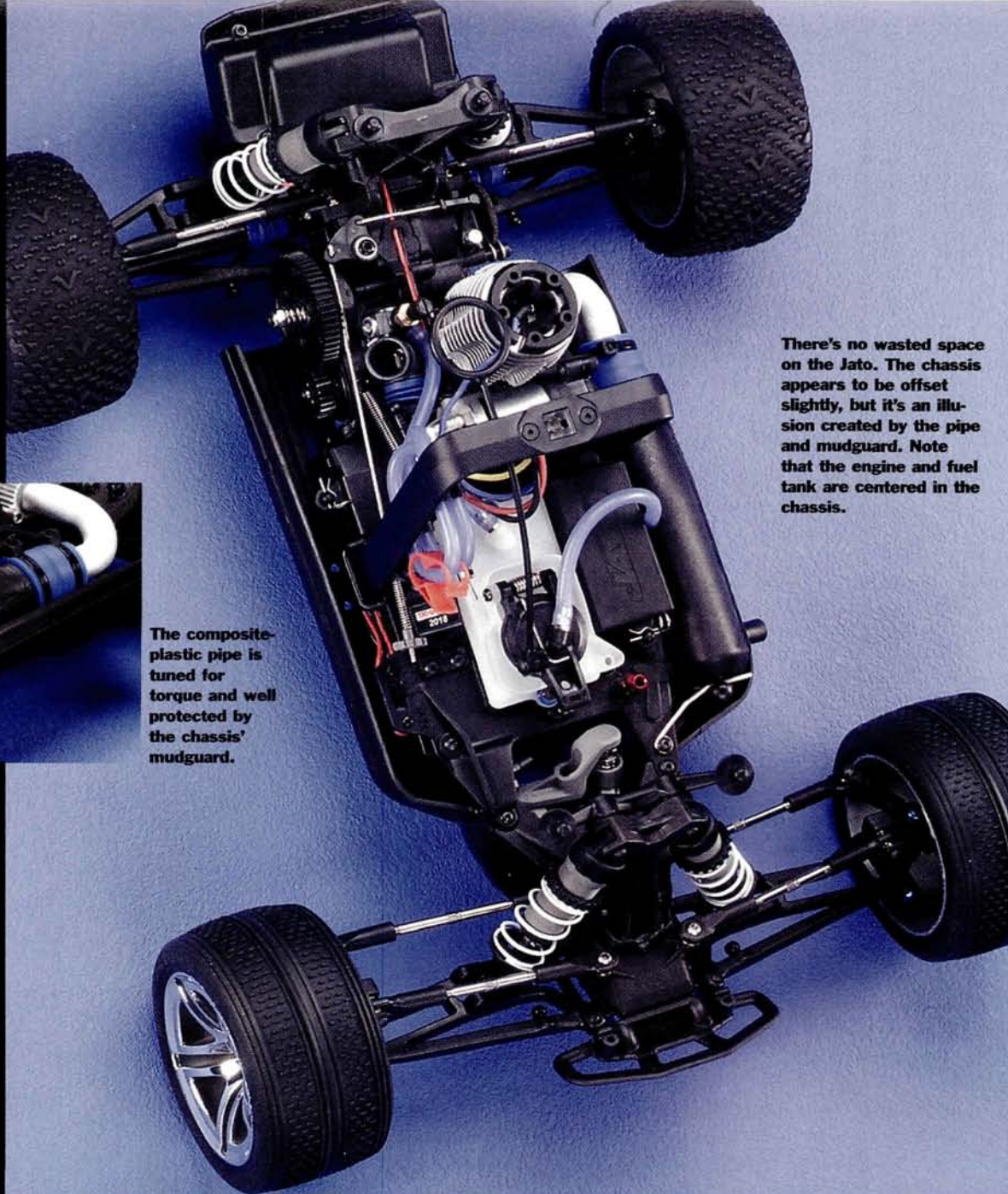
Traxxas Victory

ENGINE & ACCESSORIES

Engine Traxxas TRX 2.5
Clutch 2-shoe
Manifold Aluminum
Pipe Composite tuned pipe
Fuel tank 75cc primerless with internal sintered filter

ELECTRONICS

Transmitter/receiver Traxxas TQ 2-channel
Steering servo Traxxas high-torque 2055
Throttle/brake servo Traxxas standard 2018
Receiver pack Traxxas 5-cell



There's no wasted space on the Jato. The chassis appears to be offset slightly, but it's an illusion created by the pipe and mudguard. Note that the engine and fuel tank are centered in the chassis.



This flip-side view shows the fuel tank's lower sump and the chassis' large flywheel opening. Bump-starting will not be a problem.

The Jato is a thoroughly modern design



torque over ultimate rpm. Fuel is stashed in a new tank designed just for the Jato. It's a low-profile design with internal baffles to minimize sloshing, an internal sintered filter and a spillway to route overflow out through the bottom of the chassis. Our favorite feature is the tank's lid handle, which lets you yank the lid open without removing or reaching under the body.

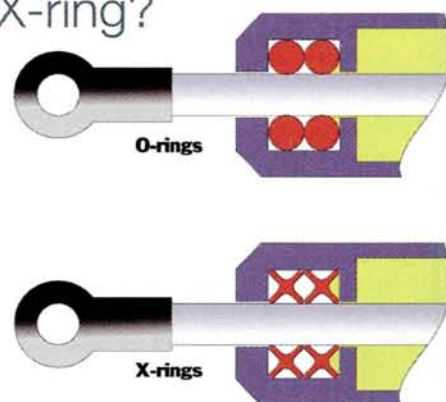
To get everything running, Traxxas' well-proven EZ-Start electric starting system does its thing. Traxxas has believed in electric starting since the Nitro Sport, and its latest system is highly refined. In addition to cranking the engine, it can detect a bad plug and will shut itself down if it's overloaded.

SUSPENSION AND STEERING. Yet more Revo-tech, most notably in the shock department. The GTR dampers use the Revo's internals, including nutted pistons, heavy-duty 3.5mm shafts and X-ring seals. But instead of polished-aluminum bodies, the Jato has molded plastic parts that look just like hard-anodized aluminum. Threaded collars take care of preload adjustments, and shock angle can be adjusted by selecting one of four holes on each suspension arm and one of three on the shock towers.

By the broadest definition, the Jato's suspension is a "lower H-arm/upper camber link" arrangement, but it's the details that matter. With the exception of the inboard camber-link ends, all the rod ends are captured, so they can't pop off. The front camber links are vertically mounted for easy roll-center adjustments,

What's an X-ring?

You're familiar with O-rings, right? Here's a pair of O-rings shown in cross-section inside a shock. Each ring provides one sealed point on the shaft. X-rings are O-shaped, but their cross-section is an "X." This shape provides two seal points, so two X-rings seal as well as four O-rings. Now you know.



and thick, 4mm steel turnbuckles set camber and toe with rugged precision. There are even swaybar mounts integrated into the suspension arms; this makes the Jato's suspension as tunable as any race truck's. The only thing you won't find is an E-clip; all the hinge pins are captured or screwed in, so they stay put without needing RC's peskiest hardware.

BODY, WHEELS AND TIRES. Like all Traxxas RTRs, the Jato's shell is factory-finished. It's a

LIKES

- Superfast, yet super-reliable TRX 2.5 power.
- Dual-position receiver battery.
- Fully tunable suspension.
- Not just another stadium truck.

DISLIKES

- Obstructed low-speed needle access.

YOU'LL NEED

Fuel
12 AA batteries
6-cell stick pack

WE USED

Traxxas Top Fuel 20%
Generic alkaline
Venom 1500mAh



FIND IT

➤➤➤ Go to page 244 for manufacturers' contact information





Left: the front shock tower is the slimmest we've ever seen! Vertical ball studs and seven positions for every shock make the Jato highly tunable. Below: the rear hub carriers wrap around the suspension arm, and the camber links are captured, so the Jato is just about crash-proof.



Left: the Victory tires and 2.8 wheels combo looks great and delivers a good mix of on- and off-road traction.

thoroughly modern design that flows neatly into the chassis' mudguards for a smooth "wraparound" look, and an open-top engine compartment and EZ-Start access port make starting and tuning the engine a body-on affair. If you open the windshield, you can also fuel the Jato without removing the body.

As stylish as the body is, it's the wheel and tire combo that really sets the Jato apart from the crowd. Instead of boring dish wheels, Traxxas specs an aggressive-looking set of split-spoke hoops with a satin-chrome finish. They're oversized, too—2.8 inches instead of the 2.2 standard. Low-profile Victory tires with foam inserts slot into the wheels from the sides of the rims (like 1/8-scale buggy tires) and are factory-glued. Although the wheels are oversized, the low-profile tires are about the same diameter as a standard 2.2-inch combination.

THE COMPETITION

JATO

VEHICLE >> REVIEWED

Associated RC10GT RTR Plus >> 10/02

Team Losi Triple-XNT Sport II

XTM Racing Nitro X-Cellerator >> 11/03



FACTORY FEEDBACK

Traxxas R&D driver Steve Slayden talks Jato



RC Car Action: What was your reaction when you first heard about the Jato project?

Steve Slayden: I thought it was great. I had been eagerly awaiting the next-level Traxxas stadium truck for a while. We revamped the Nitro Rustler with the 2.5 engine, and that made a lot of people happy, but I really wanted to see a new chassis.

RCCA: Was the Jato on the drawing board even as you were updating the Nitro Rustler, or was it the Rustler's performance with 2.5 power that made Traxxas say, "Hey, we gotta build a new truck"?

SS: Ideas start for all kinds of products at any given time. Sometimes, they go right into something we're working on; other times, they're saved for a later project. I'm sure there were ideas floating around.

RCCA: When you first got your hands on a 2.5 Rustler, were you thinking, "Man, this could really be something with the right chassis underneath it"?

SS [laughing]: Yeah; I mean, the Rustler is awesome for what it is. But engines are getting more powerful, tracks are getting bigger—and not just tracks, but peoples' expectations for performance are higher. I knew the truck would have a lot of killer features—some, I knew about, others, I didn't. When I saw the truck for the first time, I thought it was awesome. It even had a few things that I didn't expect, especially in an RTR. Jato is much more capable of harnessing the power of the TRX 2.5.

RCCA: Did you have a lot of input in terms of which features the Jato should have?

SS: Yes, we talked about what I would like to see in a stadium truck—not just for racing, but also for bashing, playing, construction-site stuff. Of course, being a racer at heart, I'm more for a track-only vehicle, but I try to give as much input as I can not just for racers but for all drivers. There isn't another truck that I can recall that has driven like the Jato, as far handling on a wide variety of surfaces goes. There's difficulty controlling most of the stadium trucks with a lot of horsepower out there—in the sense of being able to make them corner, steer, just put it where you want it. We spent a lot of time getting the "out-of-the-box" setup right so the truck would be forgiving on a variety of surfaces and not just a track vehicle or just a basher vehicle. The Jato is just great, I can almost envision a whole new type of class based on its capabilities on a variety of different surfaces—pavement, gravel ... you name it. Like a cross-country course.

RCCA: Will more tread designs be coming for the 2.8 wheels?

SS: Yes, we have some on-road and off-road tires in the works for the 2.8—and more 2.8 wheel designs, too.

RCCA: How about a Jato-style wheel in a standard 2.2-inch size for guys who want to run the currently available racing tires?

SS: I'd like to see that, but meanwhile, I think you'll see a resurgence of Traxxas dish wheels! They work well; they're light; they're fine. But for styling, a 2.2-inch Jato-style wheel would be great.

RCCA: You've hit a few big races with the T-Maxx and Revo. Will you race the Jato at any nationals?

SS: I plan to do some stadium truck racing. As far as pushing it to be a national competitor with a full-on race program or team goes, no. But the Jato is capable on the track. It has plenty of setup features, plenty of options to dial it in on any track. I think it will do very well.

RCCA: What's your favorite thing about the Jato?

SS: I knew the options would be there for setup and tuning, but what I really like are the cool little features—the "Revo-esque" stuff: the fuel tank with the overflow tube, the chassis handle, the integrated fuel-line clips, the captured rod ends, the knob adjustment for the brakes instead of collars, high-quality seals for low maintenance, and, of course, the hex hardware.

RCCA: Any chance of an electric Jato?

SS [laughing]: Well, me personally, yeah, I think there could be a chance. But I haven't been involved in anything yet. I think it would be great to do an electric Jato.

RCCA: Thanks, Steve—that teaser is the perfect ending!

PERFORMANCE

Time to drive. Our test Jato is the truck that starred in last month's "First Look" article, but we couldn't drive it then because some parts (most important, the exhaust pipe) were non-functional mock-ups. After a quick trip to Traxxas for new "real" parts, our Jato was ready to test, but first we had to break in the engine.

Although we didn't have a Jato manual, we were still able to follow Traxxas' recommended break-in procedure, since it's the same for all TRX 2.5-equipped vehicles. The Jato started as easily as the other TRX 2.5-equipped trucks we've tested, and even during break-in, it idled well and restarted easily. With each tank, it became more apparent that the Jato would be hellaciously fast, and when we eventually cut loose, the radar proved it. The Jato posted a best run of 50.8mph without even breathing heavily. Factor in variances in fuel, engine tolerances and operating conditions, and Traxxas' claim of 55.8mph falls well within the realm of possibility—especially if you juice the nitro content up to 30 percent (we ran 20 percent Traxxas Top Fuel).

With radar testing wrapped, it was time to goof around on pavement. The Victory tires' low profile, flat carcass and "dual-purpose-ish" tread pattern hooked up well, and the Jato was surprisingly nimble, even as it hit the three-wheel motion in tight turns. It pushes at the limit, but it has lots of steering until the front tires run out of traction. The 2-speed shifts very smoothly, especially for a pawl-type unit. We theorized that the smaller, lighter mechanism engages with less of a whack as the pawl



grabs the drive pin, but whatever the reason, it works. And the brakes work, too: there's wheel-locking power on demand and

good control when less aggressive trigger work is required. But remember, it's a 2WD truck, so don't expect it to out-brake a 4WD vehicle.

A nearby soccer field gave us a chance to bomb around on short grass, and the Jato made short work of the green stuff, but we were really itching to get it into the dirt. The local outdoor tracks had not yet been groomed for the new season, but as luck would have it, RC Excitement in Fitchburg, MA, had just opened its doors and finished Bobcatting an indoor off-road layout. Road trip! Owner Todd Anderson gave us the full run of the track, which was a wet mix of dirt, clay and sawdust (to help it dry out) that started out sloppy and got stickier with each lap. We started with the stock tires, but they weren't ideal for the track conditions. Nonetheless, we kept driving until we were running consistent laps, and we posted an average lap time of 25 seconds. Then we pitted for race rubber and mounted Team Losi Directional Rib front tires and Step Pin rears on Traxxas dish wheels. With the right rubber, the Jato instantly trimmed nearly seconds off its

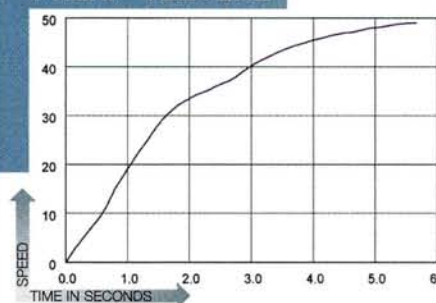


RC Excitement in Fitchburg, MA, was the test track of choice. Swing by and tell 'em RC Car Action sent you.

average lap time, and it had a greatly improved steering

feel and overall traction. In fact, it had enough grab to wheelie on the straight if it caught a bump just right. Turn-in was aggressive, and the chassis rotated nicely in the turns with just a hint of oversteer. The spring and damping rates were well within the acceptable range—no excessive bottoming or harsh rebounding, and the truck handled predictably on jump launches and landings. Although we didn't test it side by side with other nitro trucks (that's a shootout for another day—on an outdoor track where fumes can dissipate—cough!), the Jato certainly looked and felt as fast as the established racing players.

RADAR TESTING



Distance (in feet) traveled in:	0-132 ft. time	Speed at 132 ft.
1 SEC. > 13.8	3.4 SEC.	43.8 MPH
2 SEC. > 34.5		
3 SEC. > 108.3	Time to top speed	Top speed
4 SEC. > 171.8	5.6 SEC.	50.1 MPH
5 SEC. > 240.6		

THE VERDICT

Nitro Hawk? Nitro Sport? Nitro Rustler? It's tempting to call them evolutionary steps along the way to the Jato, but they really aren't. Traxxas' newest truck is a clean break from that design legacy (and the stadium truck status quo) and owes much more to the Revo and its groundbreaking design than to any other Traxxas truck that came before it. The Jato is an inspired design that deserves credit not merely for being different but for being

better. The Jato blends competition-worthy performance with RTR convenience and new-driver friendliness—not just in terms of being assembled for you, but in its reliability and ease of operation once it's out of the box. Hopefully, we'll see a lot of guys at the track getting started with a Jato and sticking with nitro power because Traxxas really did it right. ■

RATINGS

Instructions	●●●●●●●●●●	Full-color operation and maintenance manual plus an excellent tuning DVD.
Included electronics	●●●●●●●●●●	Reliable radio gear, but frill-free. 3-channel receiver is a nice touch, though.
Parts fit & finish	●●●●●●●●●●	Very good molding, machining and casting all around.
Turn-in	●●●●●●●●●●	Nice, aggressive feel; lots of traction on most surfaces with stock tires.
Corner speed	●●●●●●●●●●	Doesn't scrub much momentum; slight tendency to oversteer.
On-power steering	●●●●●●●●●●	Plenty of steering, especially with the correct tires.
Braking	●●●●●●●●●●	Good control and feel all the way to lockup.
Bump handling	●●●●●●●●●●	As good as any competition truck we've tested.
Jumping	●●●●●●●●●●	Ditto. Traxxas really should offer a full race-spec Jato; it's already so close.

Best buyer>>> All nitro-power off-road fans; racers, too.

TRACK TEST

1/16-SCALE ELECTRIC RTR 4WD BUGGY

BY JASON SAMS PICS BY JASON SAMS & GEORGE M. GONZALEZ



Kyosho half-8 mini inferno



A fresh new mini from the guys who “K”now buggies

With dozens of Mini-Z variations already available, news of another RTR Kyosho micro-machine was hardly surprising. But this latest addition to the long line of downsized K-cars is no Mini-Z; it's an entirely new scale called “Half-8”—so dubbed because it's one half of $\frac{1}{8}$ scale (that makes it $\frac{1}{16}$ scale, math whiz). That may seem like a weird way to describe a scale size, but it all becomes clear when you realize that the “full-size” vehicle in question is the Inferno, Kyosho's legendary $\frac{1}{8}$ -scale buggy. The 4WD Mini Inferno is half the size of the track-slaying MP 777 and looks just like its big brother, right down to the engine head poking through the bodywork, but don't be fooled: the Mini Inferno is electric!

KIT FEATURES

CHASSIS. The Mini Inferno's chassis is a molded, plastic-composite tub that looks just like the "big" Inferno's chassis, right down to the tabs for the suspension arms' droop screws and "diff blisters" that allow the diffs to sit extra low for a lower center of gravity. Four slots in the bottom of the chassis hold the motor-mount screws and are configured as they would be for an engine mount; makes you think, doesn't it? The chassis layout is unique in that the motor sits toward the chassis' front left side while the batteries straddle the driveshaft. The servo and its hardware are opposite the motor to balance the side-to-side weight bias. An upper deck sits on top of the battery trays and serves as a shelf for the radio gear. Front and rear rod braces further stiffen the chassis, and a plastic steering brace is secured to the front bulkhead and bellcranks in a similar way to that of an 1/8-scale buggy.

DRIVETRAIN. Like the big buggy it's modeled after, the Mini Inferno has full-time, shaft-driven 4WD and 5-gear front, center and rear differentials. The diffs' outdrives are plastic and strengthened by anti-spread rings, and they spin smoothly on metal-shielded ball bearings (as do all the Mini's rotating parts). Along with the center diff, there's an adjustable slipper clutch. Plastic dogbones join the diffs and slipper clutch, while steel dogbones join the diffs to the wheels. Motor power enters the system via a 14-tooth pinion and a 42-tooth spur gear, and there's no plastic, press-on pinion gear here: the Mini has a machine-cut steel pinion gear that's held on the motor's output shaft with a setscrew.

SUSPENSION AND STEERING. The Mini Inferno's arms are quite beefy, considering their size, and they pivot smoothly on steel hingepins secured by E-clips. Droop is adjustable, and there are front and rear sway-bar mounts, so you know that option is on the way. Most Mini buyers, however, will probably make oil shocks their first upgrade, since non-damped, oil-less

INCLUDED ELECTRONICS & ACCESSORIES

KYOSHO PERFEX TRANSMITTER

The Perfix transmitter is compact and light and features throttle and steering trims as well as steering dual rate (which you'll want to crank to maximum). The small servo-reverse knobs aren't labeled; the switch on the right is for throttle and the one on the left is for steering. The unit's range is very good, and it proved reliable during the tests.

and steering were very linear, and acceleration was smooth.

Performance alert! The speed control can handle up to 8 cells; that will definitely wake up the Mini Inferno.

KYOSHO 380 MOTOR

Most other minicars and microcars use 280 power, but Kyosho went big with a 380 powerplant. It's strong enough to accept 8 cells if you want to upgrade for more power.

KYOSHO MICRO STEERING SERVO

The Mini Inferno's supplied servo could use more torque, but because it uses an unusual 4-wire harness, an aftermarket servo isn't an easy drop-in. To install an aftermarket servo, you'll have to trade the receiver/speed control combo for a conventional speed control and receiver.

INCLUDED TOOLS AND EXTRAS

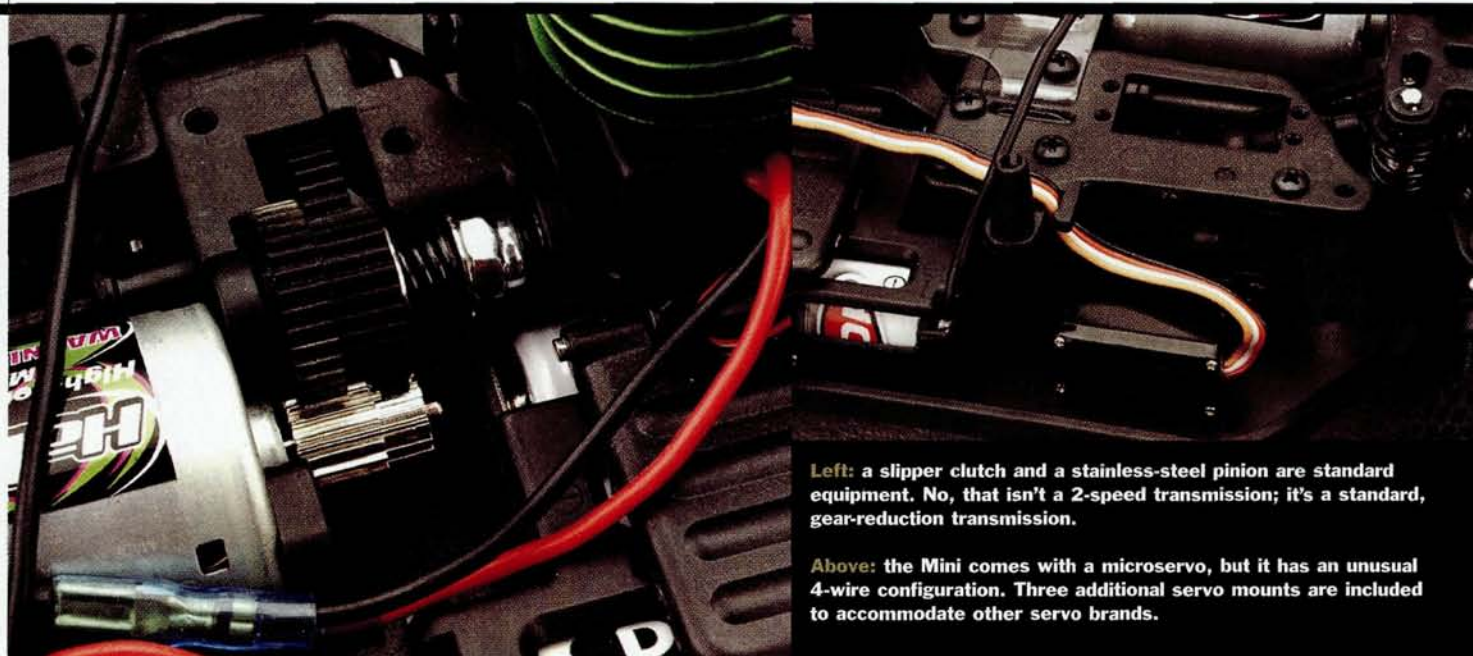
For those who like to tune for performance (who doesn't?), Kyosho includes 1- and 2-degree rear-toe-in

blocks (3 degrees are standard), a four-way wrench, 22-degree front hubs, shock-preload shims and servo horns and mounts to suit other brands of servo.



KYOSHO PERFEX RECEIVER/SPEED CONTROL

I ran the Mini Inferno on 6 alkaline cells for nearly half an hour, and the combined speed control/receiver unit never overheated or glitched. Throttle



Left: a slipper clutch and a stainless-steel pinion are standard equipment. No, that isn't a 2-speed transmission; it's a standard, gear-reduction transmission.

Above: the Mini comes with a microservo, but it has an unusual 4-wire configuration. Three additional servo mounts are included to accommodate other servo brands.

SPECIFICATIONS

MANUFACTURER Kyosho
MODEL Mini Inferno
DISTRIBUTED BY Kyosho USA
SCALE 1/16
PRICE \$229

Varies with dealer

DIMENSIONS

Wheelbase 6.9 in. (176mm)
Width 5.8 in. (148mm)

WEIGHT

Total, as tested 28.2 oz. (800g)

CHASSIS

Type Molded tub
Material Plastic composite

DRIVETRAIN

Type Shaft-driven, full-time 4WD
Primary 42-tooth spur/14-tooth pinion
Transmission ratio 3.6:1
Final drive ratio 10.8:1
Drive shafts (F/R) Dogbones
Differentials 5-gear, bevel-type
Bearing type Metal-shielded ball bearings

SUSPENSION

Type (F/R) Independent with threaded camber links
Shocks Plastic-body, non-damped

WHEELS

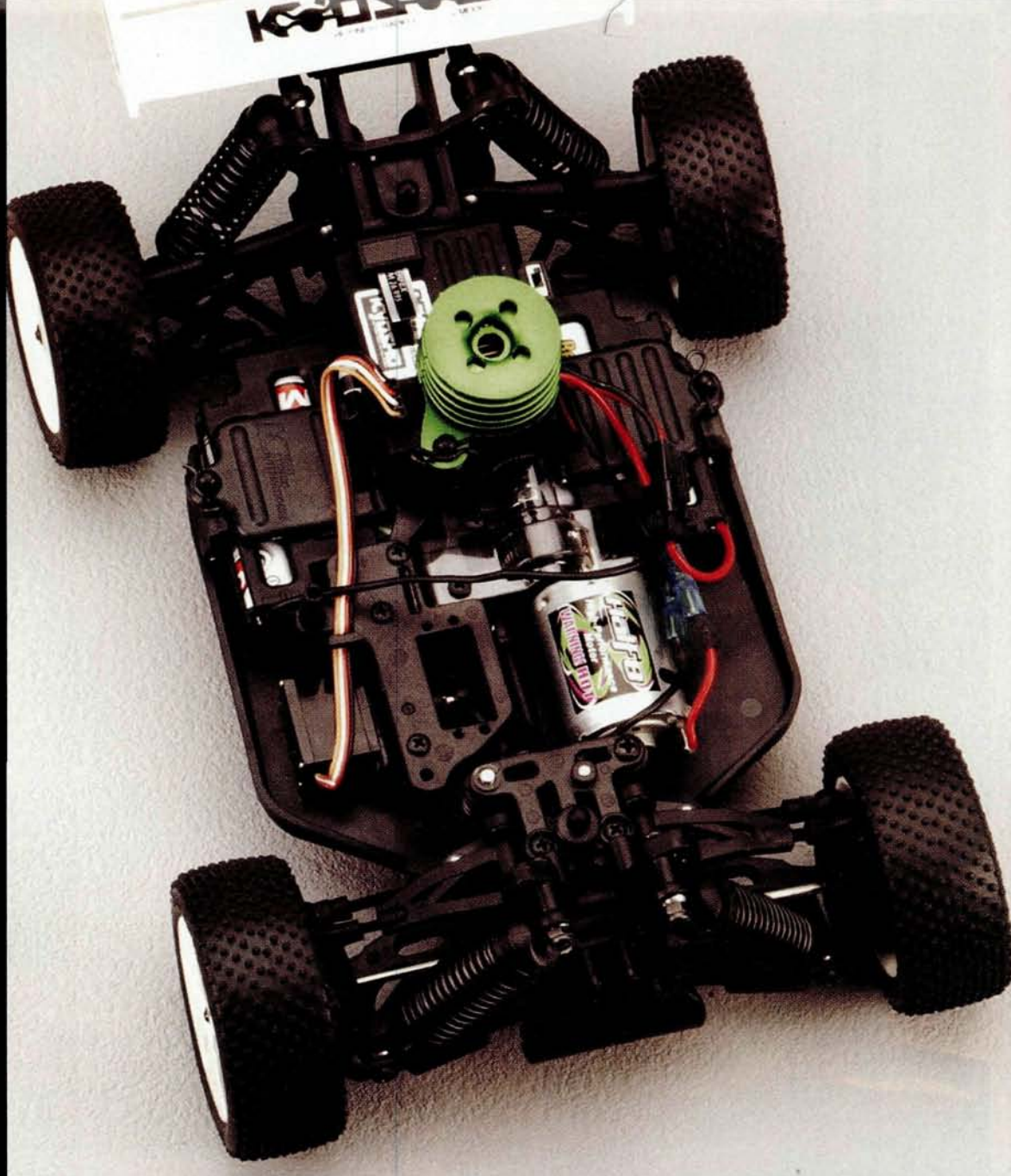
Type Slotted dish

TIRES

Mini-pins with foam inserts

ELECTRONICS

Transmitter Kyosho Perflex
Servo Kyosho micro
Speed control Kyosho receiver/speed control combo unit
Motor Kyosho 380
Batteries Not included

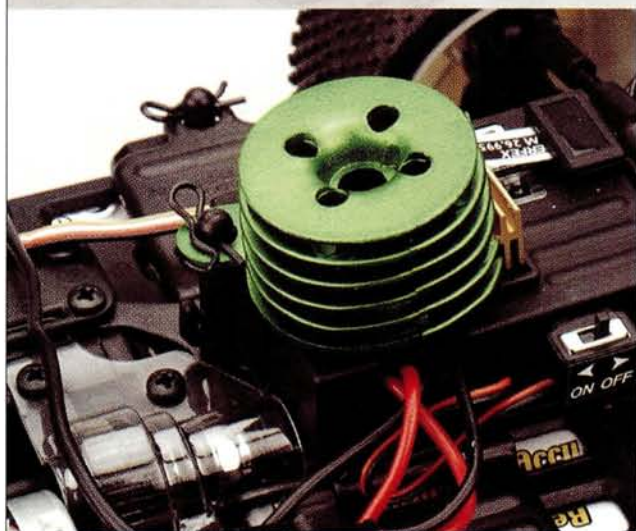


Left: shock angle, camber, wheelbase, toe, ride height and even wing angle are adjustable. Friction shocks are standard; oil shocks are optional.

Above: the suspension arms, front bumper, hubs and wheels all resemble the larger, 1/8-scale MP 777's components.



“if you're into stunt driving, get ready for some wild maneuvers.”



The cosmetic “cooling head” sits over the speed control/receiver's heat sinks and is easily removed by releasing a single body clip. The on/off switch is easy to reach and read.

plastic shocks are standard equipment. Four upper mounting locations for each shock increase tunability, and threaded links set camber (expect a turn-buckle option). Want more tuning options? Kyosho includes 22-degree front hubs, preload collars and 1- and 2-degree toe-in blocks. A twin-bellcrank steering system with an easy-to-adjust servo-saver keeps the wheels pointing where you want them.

BODY, WHEELS AND TIRES. The stylish body is an exact replica (scaled down, of course) of the 1/8-scale MP 777. The body comes cut, painted and decaled for you. Since the Mini is electric-powered, the “exhaust stinger” and “engine-cooling head” obviously aren't functional, but they do add style points. The molded rear wing matches the body, and the wing mounts have two pitch settings to alter rear downforce. Slotted dish wheels with soft-compound mini-pin tires and foam inserts finish off the Mini's styling and are mounted with common 5.5mm locknuts that you can easily trade for your favorite anodized nuts.

LIKES

- › Fully tunable.
- › Adjustable slipper clutch.
- › Biggest-in-class 380 motor.
- › Grippy tires.

DISLIKES

- › Friction shocks give a bumpy, harsh ride.
- › Servo cannot be used with a standard receiver.

YOU'LL NEED

14 AA batteries

WE USED

OFNA 2000mAh NiMH



©FIND IT

››› Go to page 244 for manufacturers' contact information

THE COMPETITION

VEHICLE >> REVIEWED
 DuraTrax Mini-Quake >> 0205
 Team Associated RC18T >> 0305
 Team Losi Mini-T >> 0204
 Trinity Itsy Bitsy Spider >> 0205
 Venom Mini Giant
 XRAY M18-T

MINI INFERNO

PERFORMANCE

The Mini Inferno requires 14 AA batteries (8 for the transmitter and 6 for the buggy) that took all of two minutes to install before it was off and running around the living room. The 6 alkaline cells paired with the 380 motor weren't as fast or punchy as I expected, but on the bright side, the Mini's overall speed isn't too overwhelming, so it's perfect for indoor running, as long as you don't tag the coffee table. Steering response was good, and that helped me to avoid chair legs, the dog and other stuff that tried to get in the way, but I found myself wishing that the steering servo had a little extra torque and throw. Despite its size, the Mini Inferno didn't turn very tightly.

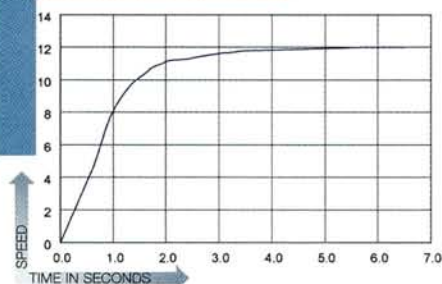
The soft knobby tires hooked up well on every surface in my house. Running on carpet, of course, was like running on a blue-groove surface, and it wasn't loose at all on the kitchen tiles. I headed to the garage to see whether the slick concrete floor would let the tires break loose. Nope; they still had decent traction.

After burning through a set of alkalines indoors, I headed to the backyard where there's a lot of construction dirt. It was obvious from the first few seconds that running in dirt meant a bumpy ride, as bumps made the buggy "donkey kick" every time. It has already been said about almost all of the minis, but oil-filled shocks would really help the Mini Inferno out in the rough stuff and improve its jumping ability. I launched it off dirt mounds for a little air time, and it jumped pretty well, but landings were a little rough.



During my tests, I didn't use reverse much, but it did come in handy a few times indoors when I tagged the living room walls (don't tell my wife or I'm done!). The funny thing is that it was just as fast in reverse as in forward, so if you're into stunt driving, get ready for some wild maneuvers. I wrapped up my bashing session with a range test and drove the buggy as far away as I could. I was still in full control even when it was too far to really see what it was doing, so for regular playing around, you should never have a problem.

RADAR TESTING



Distance (in feet) traveled in:	0-132 ft. time	Speed at 132 ft.
1 SEC. > 5.9	8.5 SEC.	11.9 MPH
2 SEC. > 20.7		
3 SEC. > 37.4	Time to top speed	Top speed
4 SEC. > 54.6	5.9 SEC.	12.0 MPH
5 SEC. > 72.0		

THE VERDICT

Kyosho has done a good job of creating something different (the good kind of different), and this buggy has tons of potential. Compared with other minis, the Mini-Inferno has a large footprint, and this helps keep it on all fours. Performance buffs will want Kyosho's optional oil-filled shocks and will likely opt for an 8-cell setup to better exploit the 380 motor's power potential, but

even in stock form, it's a standout in the mini class. It's the first buggy entry, and at 1/16 scale, it's a little more robust than the smaller machines. Don't be surprised if aftermarket tuning options become plentiful and a racing class pops up at your local track. With its fully tunable chassis and Inferno DNA, Kyosho's newest mini just begs for track time. ■

RATINGS

Instructions	●●●●●●●●●●●●●●●●	Plenty of information to get newcomers going, but presentation could be nicer.
Included electronics	●●●●●●●●●●●●●●●●	A little bulky for a mini, but worked flawlessly throughout testing.
Parts fit & finish	●●●●●●●●●●●●●●●●	Nicely molded parts throughout.
Turn-in	●●●●●●●●●●●●●●●●	For such a small vehicle, the steering radius isn't as tight as expected.
Corner speed	●●●●●●●●●●●●●●●●	The Mini maintains good corner speed thanks to its grippy tires and 4WD.
On-power steering	●●●●●●●●●●●●●●●●	The Mini held its line surprisingly well on power and tracked well, too.
Bump handling	●●●●●●●●●●●●●●●●	The friction shocks bottom out easily and rebound harshly. It's a pretty rough ride.
Jumping	●●●●●●●●●●●●●●●●	Takeoff was straight and level, but for landings, you'll want to close your eyes (see bump handling).

Best buyer>>> All Inferno fans and off-road mini drivers who appreciate tunability and performance potential

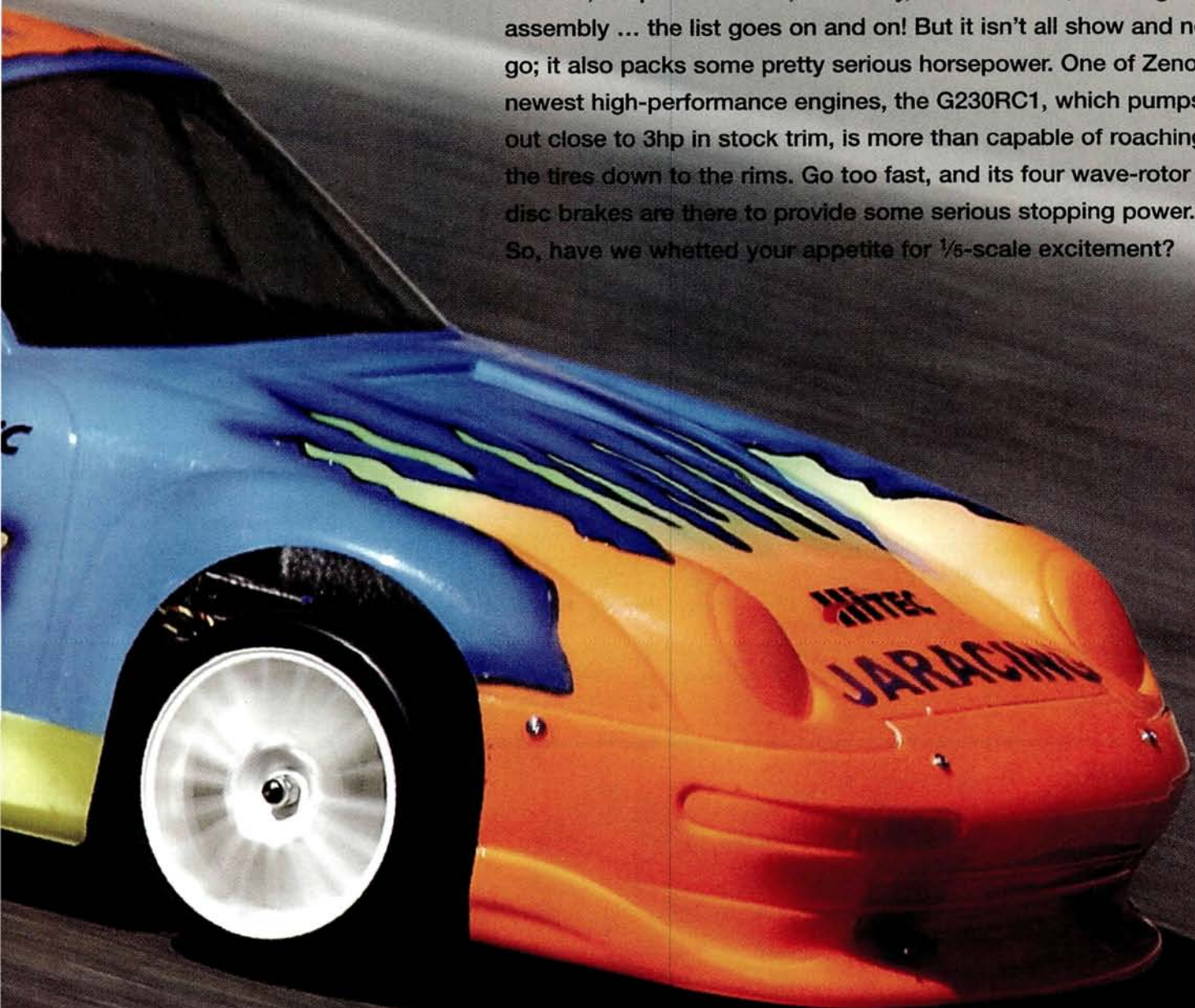


J&A Racing
Conversions

T3

Exotic, expensive and mostly metal, this billet-bullet is an RC dream machine

THERE'S LITTLE DOUBT that the new J&A Racing Conversions T3 1/5-scale car is one of the flashiest cars out there. It has more shiny aluminum pieces than we've ever seen on a stock car. Almost everything is made of high-quality billet aluminum—the chassis, suspension arms, radio tray, shock towers, steering assembly ... the list goes on and on! But it isn't all show and no go; it also packs some pretty serious horsepower. One of Zenoah's newest high-performance engines, the G230RC1, which pumps out close to 3hp in stock trim, is more than capable of roaching the tires down to the rims. Go too fast, and its four wave-rotor disc brakes are there to provide some serious stopping power. So, have we whetted your appetite for 1/5-scale excitement?



KIT FEATURES

CHASSIS. The chassis is made of 8mm-thick machined aluminum. Its edges have a nice machined bevel, and areas on top have been strategically milled out by 4mm to lighten it where strength won't be affected. All the screws and engine-mounting slots are recessed so that the screws and machined-aluminum countersunk washers fit flush with the bottom of the chassis. The chassis also has holes to allow access to the exhaust header, the rear diff, the front steering bell-cranks and the linkage.

The aluminum radio tray is pretty straightforward and has room for three large-scale servos and the receiver. It has a built-in mount for an older-style AMB transponder and a plastic mount for the antenna tube, which with the heim joints and gas tank, are among the car's very few molded pieces.

DRIVETRAIN. The first thing you notice about a 1/6-scale drivetrain is the beefiness of its components. The T3 uses a standard, single-layshaft setup to transfer the power from the clutch to the rear diff. One gear is steel, and one is plastic: the steel pinion gear meshes with the plastic spur gear. On the inside of the layshaft, a steel pinion is mated with the steel differential drive gear. Judging by the tooth pitch and the materials used, you won't need to replace these gears anytime soon. There aren't any belts involved in the drivetrain, so it spins freely.

The drivetrain ratio is 5.2:1, and that's your only option at this time. This is strange for such a high-end car, and I hope J&A Racing will offer other pinion gears soon.

The diff is a standard, quad bevel-gear setup, and it's packed with grease of the appropriate weight for the action you want. The factory setup is pretty light.

TUNING

SHOCK SETUP

I would swap the rear shock fluid for something heavier—closer to 100WT. The stock fluid is way too thin and makes the suspension bouncy.

LOCK IT

Put blue thread-lock on all the screws that go into metal (which is most of them). If you don't do this, they will work themselves loose.

CAMBER, ROLL AND ANTI-SQUAT

I started with 2 degrees of camber at all four wheels, and that seemed to work fine. In a very-high-traction situation, I'd use 1 or 2 degrees more to keep the car more planted. The rear roll center can be adjusted by altering the spacing of the inner pivots on the lower A-arm. If there's too much chassis roll in the rear, consider shimming the inner pivots up 1mm at a time. You can also put anti-squat in the rear arms just by shimming up the front of the arm. I did this, and forward traction increased noticeably.

TOOLS

The car comes assembled, so you really only need tools that fit the hardware you use to mount the servos. To work on the car, you will need 3mm, 4mm and 5mm hex wrenches, 7mm, 10mm and 13mm nut drivers and a Phillips screwdriver. Also make sure that you have plenty of thread-lock, as all metal-to-metal connections have to be properly secured before you run this thing.

The drivetrain features disc brakes at each wheel. The discs have the very trick-looking wave-rotor design that you find on high-end sport bikes. Each caliper is controlled by a cable. To balance the brakes, you turn an adjustment nut where the brake cables go through front bulkhead and rear-brake mount. Though braking was pretty good, getting the left-to-right brake balance took some real doing, and the setting tended to drift. Overall, I think I'd rather have just one disc in the rear; then I'd only have to deal with adjusting the front rotors. Of course, having two discs at the rear can prevent the diff from unloading under hard braking and turning, but the system's adjustability needs to be improved.

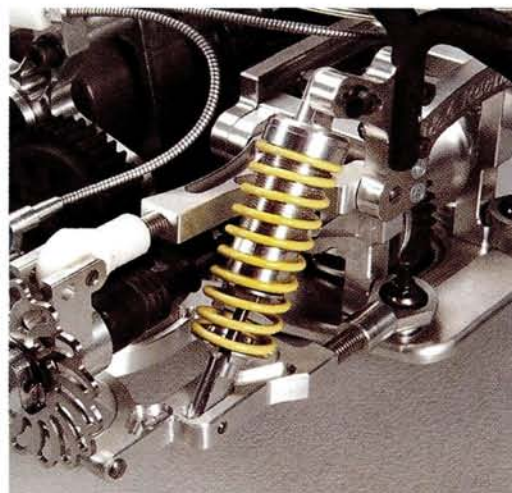
ENGINE AND ACCESSORIES. The T3 includes Zenoah's all-new G230RC1. This is a modified G23; its intake ports are 30 percent larger, and it has a wider exhaust port. The head features oversize fins for better cooling, and it uses a smaller spark plug for better combustion-chamber efficiency. A newly designed, high-output coil improves ignition reliability, and a light, cast-aluminum fan with blades on both sides also helps keep this high-output powerplant cool even under the most extreme conditions. Last, but not least, the G230RC1 has a light, dual-ball-bearing crankshaft and an inline-mounted carburetor with a larger bore. Zenoah claims that the G230RC1 produces 2.7hp at 11,264rpm, and if that isn't enough for you, the engine's design allows some tweaking on the inside for those who aren't afraid to break out the files and Dremel and go to town. I found the engine lived up to the hype and provided plenty of rubber-melting power. The engine also features a tuned pipe and manifold to further enhance its performance.



The T3 comes with 4-wheel disc brakes. The discs themselves are wave-rotor style—the vented cutouts help the disc cool quicker, which helps provide more consistent braking action.



Powering the T3 is the potent Zenoah G230RC1 engine. It pumps out 2.7hp.



The rear suspension consists of a more standard setup—stand up shocks handle the damping action. Rubber boots help protect the rear driveshafts by keeping debris out.

SPECIFICATIONS

MANUFACTURER J&A Racing

Conversions

MODEL T3

SCALE 1/5

PRICE \$3,100

DIMENSIONS

Wheelbase 18.31 in. (465mm)

Width 14.96 in. (380mm)

WEIGHT

Total, as tested 300 oz. (8,500g)

CHASSIS

Type Plate

Material Machined-aluminum

DRIVETRAIN

Type Gear-driven, rear-wheel-drive

Primary 3:1

Transmission ratio 1.73:1

Final drive ratio 5.21:1

Gears Steel, plastic

Differentials Gear

Bearing type Shielded

SUSPENSION

Type (F/R) Bottom A-arm, top

A-arm with adjustable pivot

length/bottom A-arm, top

camber link

Shocks Threaded aluminum

ENGINE AND ACCESSORIES

Engine Zenoah G230RC1

Clutch 2-shoe with one retaining spring

Pipe/manifold Stamped-steel exhaust

Fuel tank 700cc with pressure fitting; no primer

WHEELS

Type 18-spoke

TIRES

Type Treaded-rubber race tires

ELECTRONICS

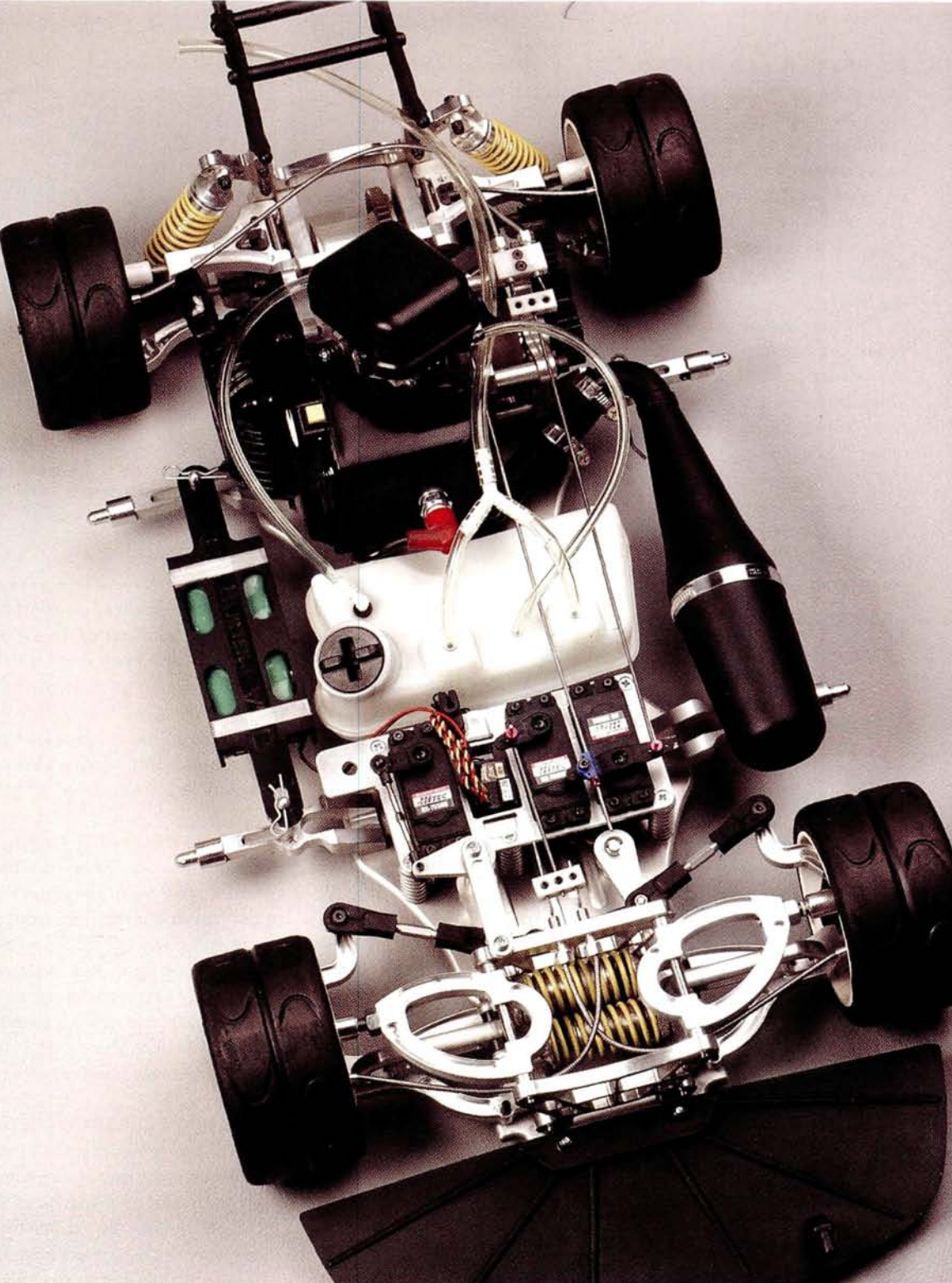
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FACTORY OPTIONS

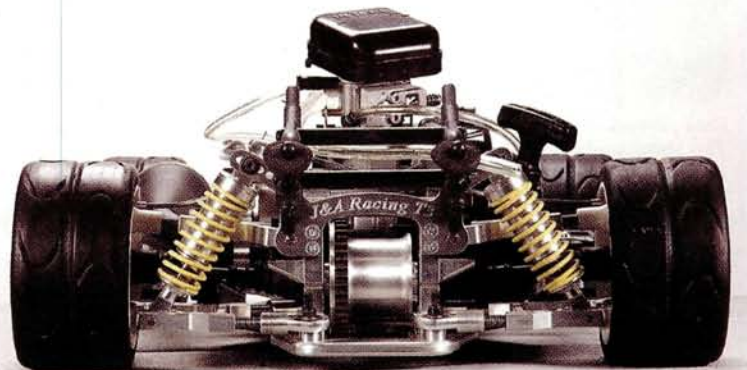
- Big-Bore kits (25.4cc and 27cc)
- Stroker cranks (+1mm and +2mm)
- One-piece alloy wheels
- Three-piece alloy wheel (doesn't require glue)



A stamped-steel exhaust expels the engine's spent 2-stroke premix.



The car is comprised of mostly billet aluminum. The suspension arms, steering arms and shock towers are all made of high-grade aluminum alloy.



From the rear, you get a good idea of how close the car sits to the ground. This big beast has a nice, low center of gravity.

SUSPENSION AND STEERING. The suspension is an unequal-length A-arm setup. In the front, the inside of the arms pivot on hinge pins, and the outer pivot is a ball-joint design on both the upper and the lower arm. Camber is altered by adjusting the heim joint on the upper arm inward or outward, and the caster is adjusted by sliding the upper arm forward or backward on the hinge pin. The front suspension also features an inboard dual-shock setup. The shocks are mounted centrally on pivots between the arms. This is definitely a unique setup, and it does a good job minimizing body roll.

The rear suspension consists of A-arms with an adjustable upper camber link. Toe-in can be adjusted by altering the length of the rear heim joint on the lower A-arm; adjust rear camber by altering the length of the upper arm (thread or unthread the outer heim joint). The rear-shock setup is much more traditional and offers one mounting hole on the A-arm and four mounting holes on the shock tower for added chassis-setup options. The front and rear suspension-droop adjustment screws offer even more setup options. Unfortunately, I was not impressed by the fit of the suspension pieces; there was binding on the front arms, and it took some filing to get rid of it.



A steel pinion gear meshes with a large plastic spur gear. These gears are pretty beefy; you shouldn't worry about stripping them any time soon!



Dual inboard, horizontally mounted shocks handle the damping up front. The shocks are mounted on pivots. It may be a funky-looking setup, but it really does help reduce excess body roll.

LIKES

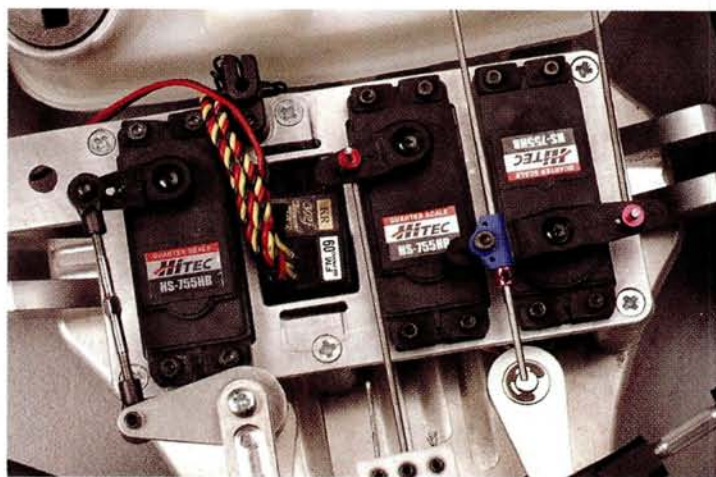
- › Impressive machine work.
- › Potent Zenoah G230RC1 engine.
- › Nice-looking body.

DISLIKES

- › Shocks are a bit rough.
- › Rear shock damping is too light.
- › The brake setup is trick but very difficult to adjust correctly.

FIND IT

›› Go to page 244 for manufacturers' contact information.



The aluminum radio tray houses three large-scale servos (two for steering, one for throttle/brake). I made tray out of Lexan to accommodate the receiver.

The aluminum shocks feature three-piece, threaded-body, aluminum top caps and dual O-ring-seal cartridges. The shock bodies aren't hard-anodized or coated, and their bores hadn't quite been machined to a mirror finish; I could feel the grooves as I compressed them. They don't leak, but they could be much smoother.

The steering geometry is a standard bellcrank setup. No servo-saver mechanism is built into either of the bellcranks (unlike what you'd see on some 1/10-scale cars). The geometry doesn't have any noticeable bump-steer and is very solid overall. Again, everything is made out of machined aluminum.

BODY, WHEELS AND TIRES. The included body is a very nicely detailed, scale-looking Porsche 911 GT2. (Well, the shape is scale at least; the paint job wasn't exactly typical for a Porsche!) Like most 1/5-scale bodies, its front portion is replaceable, and that's a good thing, as these Lexan behemoths don't come cheap! The body arrives clear and requires a lot more paint than a 1/10-scale car, so buy extra when you're at the shop!

The rims feature a clean-looking, 18-spoke design and are molded of white plastic. The tires are made of real rubber, and the compound feels like that of a motorcycle tire. Serious stuff.

INCLUDED ELECTRONICS. Radio equipment isn't included with the T3, but a 5-cell, sub-C receiver pack is part of the package. When choosing radio gear, keep in mind that the T3 requires three servos: one for steering, one for throttle and rear brake and one for the front brakes. To set up the brakes properly, you'll need a fully functional third-channel mixing feature. If your radio doesn't have channel mixing or a third channel, you will need a Y-harness to tie the throttle and front brake servo together, and you'll have to make a lot of adjustments manually to get the braking right.

YOU'LL NEED	WE USED
Servos	Hitec HS-755HB
Transmitter	KO Propo Helios
Gasoline	Sunoco Ultra 94
Premix	Honda HP2



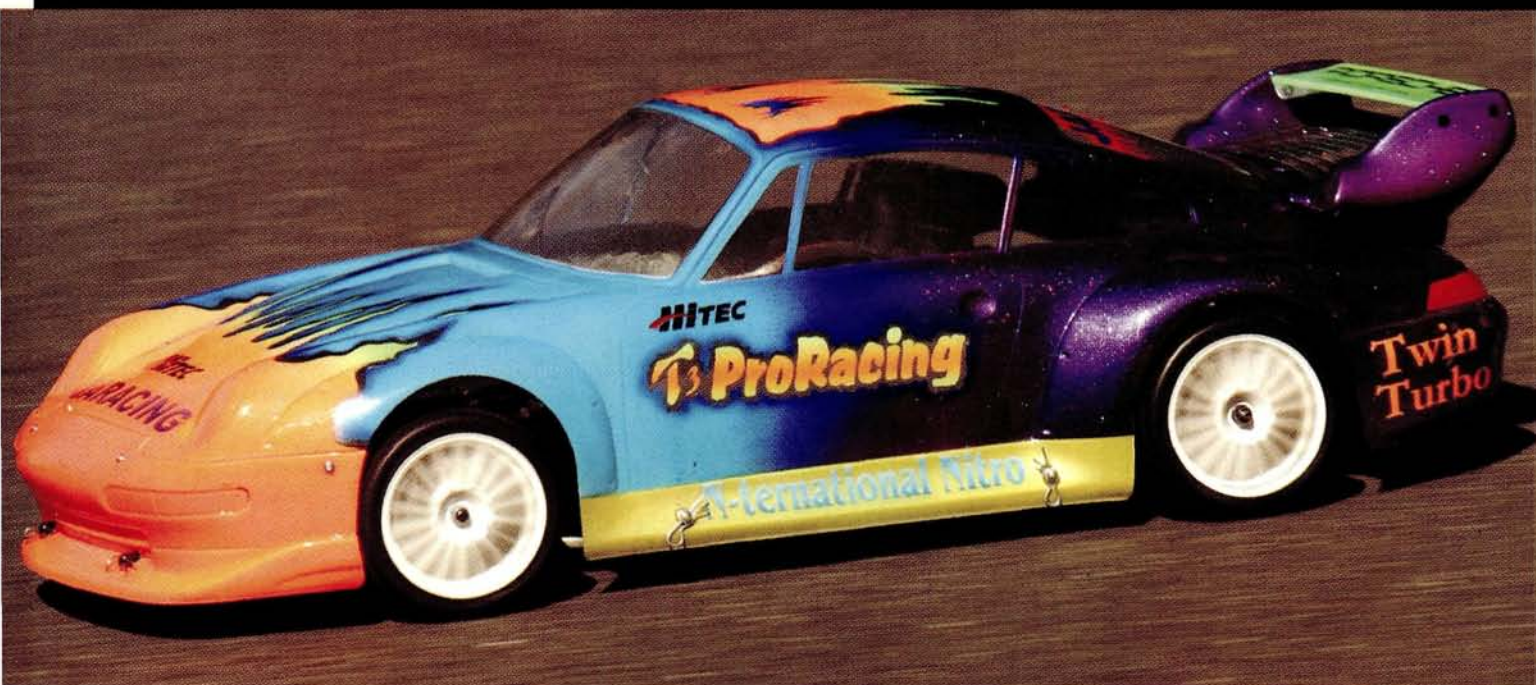
PERFORMANCE

I tested the T3 at a local college where a group races touring cars in the parking lot. I had to extend the track so that I'd be able to give the car enough room to show its stuff. The Zenoah G230RC1 engine started right up, provided plenty of power and ran flawlessly during the entire test. Think about it: when was the last time you spent time chasing the settings on your weed-whacker? The big Zenoah produces way more rip, but its basic design is similar, and it operates with the same type of fun-enhancing reliability—while making tire-shredding power, that is. I was impressed by how it ran on the top end (compared with older Zenoahs). The 30-percent-larger ports really helped it to breathe on top. I would conservatively estimate the T3's top speed to be in the high-40mph range. If you don't think that sounds fast, you should reserve judgement until you see a car this big bearing down on you at nearly 50mph. It's scary (in a good way).

From the first lap, I noticed that the rear spring and oil setup was way too soft and needed much thicker oil to control the car's weight. Under acceleration, its rear bottomed pretty hard, and that hurt the forward traction. This lack of sufficient rear damping also led to wheel hop while exiting turns as the diff unloaded. This was the result of excessive chassis roll caused by the softness of the rear-shock setup.

That brings me to the diff, which could also stand to have thicker grease to help acceleration out of turns. When entering corners, turn-in was mediocre compared with what I'm used to from 1/10-scale cars, but it felt appropriate for a car of the T3's size and heft. I think that some of the turn-in shortage may also be the result of the front suspension's not being smooth enough to allow consistent handling. The rough shock bores prevent the front suspension from being as smooth as it should be. In the center of turns, the car rotated well, and that sometimes made finishing the turn on power difficult. Again, the sticky front shocks probably kept the front end too tight and didn't let the chassis settle where it wanted to.

Braking was very positive but difficult to modulate, and I found myself frequently locking the brakes. To get the the front-to-rear brake bias right, I recommend that you use a radio that has advanced servo mixing. Also, getting the brakes to grab equally on both sides was difficult because the cable system doesn't lend itself to smooth operation or easy, consistent adjustments. Bottom line: be patient when you adjust these brakes. In the end, the keys to getting the T3's handling right will be smoothing the shocks and getting the brakes to work in a consistent and balanced way.



THE VERDICT

The T3 has some fit and finish glitches (primarily the rough shock bores), but the parts and chassis seem to be of a very high quality. If you are looking for a 1/5-scale car that will turn heads, look no further. Without the body on, this thing looks like a CNC'd tour de force with nothing but nicely machined aluminum parts everywhere. As a high-performance car, its setup needs more tuning,

and you should definitely give the entire a chassis a once-over with thread-lock. Some might argue that a \$3,000 car should have no "issues," but the T3 is more of a handmade piece than it is a mass-produced machine worthy of comparison to a "mainstream" RC car. If you've got three grand to spend on an ultimate RC car you already know if the T3 is for you! ■

RATINGS

Instructions	●●●●●●●●●●	5	Instructions are sufficient for experienced drivers but lack detail.
Parts fit & finish	●●●●●●●●●●	7	Some raw surfaces on the machined parts cost the T3 points, but it certainly looks diesel.
Turn-in	●●●●●●●●●●	7	Initial turn-in is a bit sluggish, as this is a very big car. It's a 1/5-scale thing.
Corner speed	●●●●●●●●●●	8	There's a lot of momentum in this massive machine.
On-power steering	●●●●●●●●●●	7	Under power, the front end has a tendency to push.
Braking	●●●●●●●●●●	8	Very powerful, but hard to modulate and adjust. But safety first: I'll take sheer stopping power!

Best buyer>>> Hey, if you can afford it

Build big with HPI's .28-powered, kit-version super Savage

SINCE ITS 2002 DEBUT AS A .21-POWERED MACHINE, HPI's Savage has been offered as an RTR and in "SS" kit mode. It was given power-ups in the form of .25 power, and now it's available with an even more robust .28ci powerplant—or 4.6cc, if you prefer. That's HPI's preference, and the number that names its latest mega-monster—the Savage SS 4.6. With even greater power, durability mods to handle the extra horses and the you-built-it treatment we real RC guys prefer, it looks like a lot of fun—and a lot of polybags!



HPI

savage ss 4.6



KIT FEATURES

CHASSIS. The Savage uses HPI's TVP (Twin Vertical Plate) chassis to support all the gear that is needed to run the truck. You'll find the radio gear, gearboxes, transmission and engine mounted between the two, 2.5mm, stamped-aluminum plates. The center of the side plates has been cut out to reduce weight and enhance the look of the truck. A stamped-aluminum roll hoop supports the body's roof and doubles as a carrying handle. The edges are a bit sharp, so be careful when you pick the truck up (best bet: knock the edges off with a file). A molded-plastic housing protects the radio gear, and it's big enough to accommodate both servos, the receiver and the receiver pack. Three body clips secure the lid, but the front clips are difficult to remove and install because they're under the front shock tower. Skidplates and molded bumpers protect the front and rear gearboxes from impact.

DRIVETRAIN. Like all Savage trucks, the SS 4.6 uses shaft drive to provide full-time 4WD power. When I opened the box, I was pleasantly surprised to see that HPI had already assembled the Savage's gearboxes, diffs and transmission. The transmission is the same as the unit installed in the Savage 25 RTR, but HPI throws in an upgraded brake and spur gear for you to install. A pair of vented-steel rotors replace the single plastic rotor, and the spur gear is a 47-tooth unit (down from a 49). An adjustable slipper clutch with a thickly cast pressure plate gives additional protection against gear stripping.

An internal 2-speed transmission is stock equipment, and the pawl-type mechanism is easily adjusted through the side of the transmission case; rubber plugs keep dirt out and grease in. Six-gear, sealed differentials are also stock, and steel dogbones link the gearboxes and diffs (front universals would have been a nice touch). Rubber-sealed ball bearings are the finishing touch.

ENGINE AND ACCESSORIES. The Savage 4.6 is all about the engine, and HPI didn't skimp. The .28ci (4.6cc) powerplant is an impressive piece and combines convenience features with high-output performance mods. On the convenience side, the engine has a pull-starter, and the sides of the oversize heat-sink head are machined for easy access to the engine-mounting screws (and the machining adds style as well). On the performance

BUILDING AND SETUP TIPS

When it comes to assembling the Savage 4.6, you should definitely be organized with your build. HPI gives you the manual for the older Savage 25 kit and includes an extra one that covers the installation of the parts that make this a Savage 4.6. Make notes in the main manual so you know when to jump over to the addendum manual.

STEP 1. Don't forget that this truck comes with 6-gear diffs, so you'll be installing two extra bevel gears in the diff. The manual shows only four.

STEP 26. Be careful when you install the dual discs on the transmission because the brake pivot and plunger can fall out.

STEP 27. The transmission comes with a 49-tooth spur gear. Remove it, and replace it with the 47-tooth included in the kit. Don't forget to put on the slipper pad!

STEP 35. Before you install the body clips that secure the radio-box cover, install zip-tie

handles so you can yank them off more easily when it's time to get in there.

STEP 36. Don't install the plastic servo-saver on the servo. The 4.6 has a servo-saver in the bellcranks.

STEP 42. When you fill the shocks, be sure to leave a little room in the shock body so that the shock shafts don't bind when they're compressed. This will mess up the consistency of the shock fluid, but a lot of shock fluid is displaced when the shaft is pushed in, and without that space, it has nowhere to go. Air can be compressed, but liquid can't.

front, the engine's 3-needle carb allows maximum tuning precision, and an 8.5mm bore lets the mill ingest fuel and air in large gulps. The piston and sleeve use the expected ABC construction, and the steel 15T clutch bell hides a 3-shoe clutch.

A primerless 160cc fuel tank holds the juice, and two body clips secure it to the side of the chassis. It has a large-diameter opening for fast refilling, and the pressure tap is installed in the cap to help keep fuel out of the pressure line and reduce foaming. Baffles inside the tank minimize fuel sloshing, and a sintered filter prevents debris from entering the engine.

Even a massive powerplant like the 4.6 will be powerless if it can't "breathe," so HPI provides a large, dual-stage air filter. A tubular aluminum header feeds a polished-aluminum tuned pipe, and the ends of the header and pipe have a flange to



Above: how nice is that tuned pipe? It comes stock on the 4.6. Right: this tank holds a lot of fuel, and it's easy to remove for maintenance. Just two body clips hold it in place. Far right: these new Dirt Bonz tires provide plenty of wheelie-popping traction. The multi-spoke, chrome-plated wheels are a nice touch.



FACTORY OPTIONS

- Threaded aluminum shocks—item no. A712
- Graphite TVP chassis set—73818
- Heat-sink engine mount—86140

SPECIFICATIONS

MANUFACTURER HPI
MODEL Savage SS 4.6

SCALE 1/8
PRICE \$430
Varies with dealer

DIMENSIONS
Wheelbase 13.39 in. (340mm)
Width 16.77 in. (426mm)

WEIGHT
Total, as tested 248 oz. (7,037g)

CHASSIS
Type Ladder frame
Material 2.5mm aluminum plate

DRIVETRAIN
Type Enclosed-gearbox, shaft-drive
Primary 17T clutch bell/47T spur gear
Transmission ratio (1st/2nd) 2.22:1/1.54:1
Final drive ratio 6.14:1/4.26:1
Driveshafts Dogbones
Differentials Silicone-filled, bevel-gear
Bearing type Rubber-sealed ball bearings

SUSPENSION
Type A-arm w/adjustable upper link

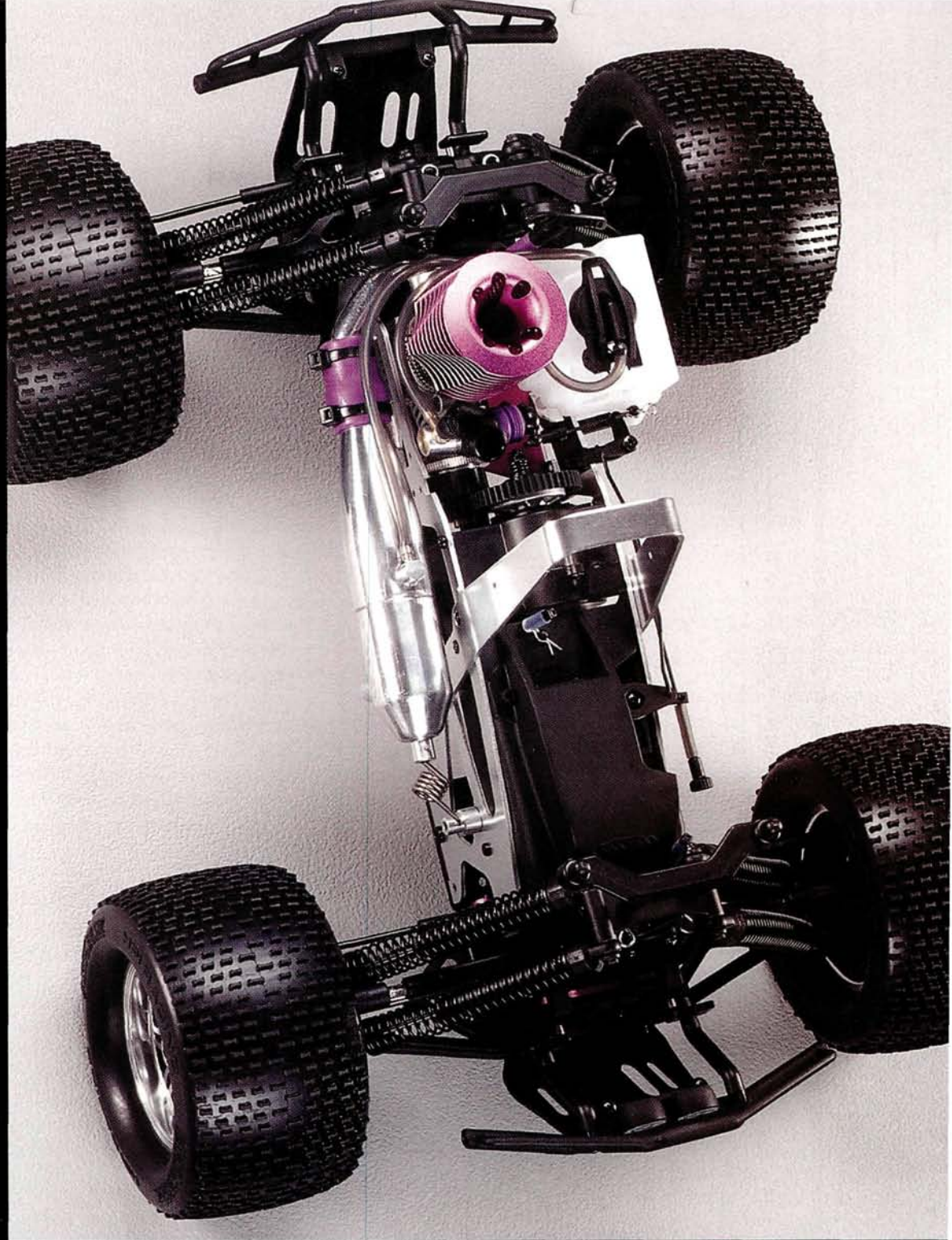
Shocks Fluid-filled, plastic-body with double O-ring seals

WHEELS
Type Chrome 8-spoke

TIRES
Type HPI Dirt Bonz with foam inserts

ENGINE AND ACCESSORIES
Engine HPI K4.6 Big Block
Clutch 3-shoe
Manifold Aluminum
Pipe Polished-aluminum, dual-chamber
Fuel tank 160cc

ELECTRONICS
Not included



Left: these brakes slow the truck well—so well that my truck almost flips over when you get on them.

Right: the radio box on the Savage is completely sealed and keeps the elements away from your radio gear. It's just a little hard to get into.





prevent the coupler from sliding off, but the pipe flange is a little too large, so it's a little tricky to get the coupler over it. Bright side: it won't pop off.

SUSPENSION AND STEERING. The SS 4.6's suspension is classic Savage stuff. The lower A-arms are molded so that they can be used on the left and right sides of the truck, and they're very beefy, thanks to their thick cross-sections and stiffened the center ribs. The upper H-arms are two-piece units held together by a

turnbuckle, so camber adjustments are easy. The hub carriers look wacky with their wraparound design, but they're very tough.

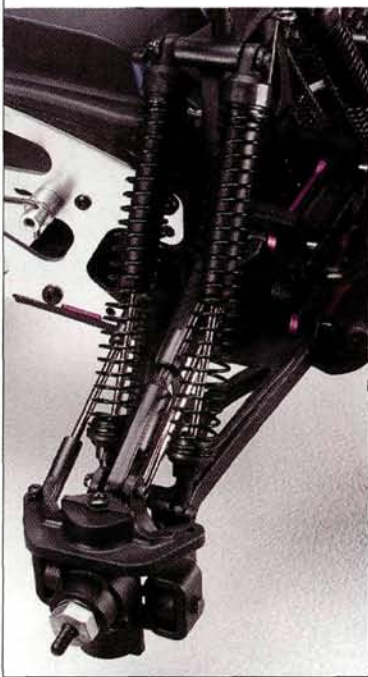
The Savage's oil-damped, plastic-body shocks are the longest in the industry and give the truck seemingly bottomless travel. Clip-on preload spacers adjust ride height, but that's just about the only tuning option, as only one mounting hole is available in the shock tower and lower suspension arm for each shock.

In the steering department, HPI includes its new, fully adjustable, cam-type servo-saver. It's incorporated into the right bellcrank, where it's unfortunately completely inaccessible, so set it properly as you build! The bellcranks link up with the steering hubs via threaded rods, so toe-in can only be set with some disassembly. Identical links are used in the rear to set rear toe.

BODY, WHEELS AND TIRES. In keeping with its high-performance vibe, the 4.6 sheds the usual monster meats in favor of a racier tread pattern. HPI's home-grown Dirt Bonz rubber hooks up with tiny bone-shaped lugs, and stepped-foam inserts support the soft rubber. Good-looking, 8-spoke wheels are also included, and the mounting areas are chrome-free for a better glue bond. The 4.6 has the same body as previous Savages, but it's clear, so you can paint it any way you like. I sent mine to Bill Zegers for the Zegers RC Graffixx treatment.

◉ FIND IT

➤➤ Go to page 244 for manufacturers' contact information



Left: camber is adjustable thanks to the two-piece upper arms with turnbuckles. Can those shocks be any longer? Above: which parts are new on the Savage 4.6? The rims, tires, brakes, and more.

LIKES

- Powerful .28 engine.
- Strong dual-disc brakes.
- Adjustable servo-saver.
- Fast!

DISLIKES

- No universal-joint axles.
- Could be more adjustable: toe links should be turnbuckles, and shock positions are limited.

THE COMPETITION

SAVAGE SS 4.6
VEHICLE >> REVIEWED
 CEN Genesis >> 9/04
 DuraTrax Warhead
 Tamiya TNX >> 01/04
 Team Losi LST >> 11/04
 Team Associated Monster GT >> 12/03
 Traxxas T-Maxx 2.5 >> 11/02
 Traxxas Revo >> 06/04

YOU'LL NEED	WE USED
Radio	Airtronics M8
Throttle servo	Airtronics 94359Z
Steering servo	Airtronics 94359Z
Receiver pack	Venom Racing 1200mAh
Tire glue	ProLine Premium Blend CA
Fuel	HPI Power fuel
Fuel bottle	HPI
Glow starter	DuBro EZ-Glo



PERFORMANCE

I could tell the Savage 4.6 was going to be a handful even before I put it on the ground; it nearly wrenched itself out of my hands as I blipped the throttle. Even during break-in, the truck spun the tires easily, and they shot up roost even though the engine wasn't up to operating temp. Although the carb has three needles, I tuned it using the conventional high- and low-end needle adjustments; that's all you really need. After the engine warmed up and the carb's needles were set, it was hard to keep the front tires on the ground if I got on the throttle at anything under 10mph. The engine has a lot of snap even with the taller gearing, and the combination of big power and extra rollout makes the SS one of the fastest monsters I've tested (how fast? More on that later).

Slowing the truck down was a bit hair—not because the brakes aren't good, but because they are almost too good. I almost flipped the truck the first time I grabbed the binders. With a lighter touch, the brakes respond well, and you can even dial out some braking if

you plan to race and prefer better deceleration control to sheer wheel-locking force.

I really like the 4.6's new servo-saver; you're no longer stuck with what the factory wants you to have for servo-saver tension. If you want to race, you can tighten that sucker up for better steering response or loosen it for backyard bashing. I set mine a bit on the tight side and was very impressed by how well the Savage steered. There was a slight on-power push, and it's no wonder because the front end wants to come off the ground the second you touch the gas. When you let up, the truck turns well; its weight shifts forward, and the front tires dig in.

I drove the Savage over a variety of terrains to try out the suspension and found the stock settings a little stiff for small stuff, but that actually helped handling by limiting chassis roll. For bigger hits—the kind a heavy-duty, high-horsepower truck will see a lot of—the damping was just right. And with the Savage's superlong suspension travel,

there isn't much it can't soak up.

Likewise, the extra travel and stiff springing let the Savage drop in from huge launches without upsetting the chassis. If you're into hang time, the Savage is a first-class flight.

After bash-testing, the Savage was ready for the radar. Well, maybe not quite ready: when I grabbed the pull-starter cord, the spring snapped, and I was sidelined. Nothing a trip to the hobby shop can't fix, right? Wrong. The new 4.6 powerplant isn't compatible with HPI's current big-block pull-starter or RotoStart kit, so I was stuck on deadline with no way to start the Savage. But tune in to next issue's *Monster Shop* (new column!) for all the speed specs you can handle! Can't wait that long? Click over to rccaraction.com for radar testing results and video.



THE VERDICT

I liked the Savage when it first came out and was happy when HPI upped its displacement with a .25, but now that HPI has introduced a .28 powerplant, the Savage at last has the right amount of power (in other words, too much!). Short of building a full-option, mega-dollar hoopty ride, the Savage 4.6 SS is as good as HPI nitro monster-trucking gets. The SS 4.6 is as rugged as big

trucks come, it packs a powerful punch, and it's a kit; for us old-school RC guys, that's a huge plus.

 **CLICK TRIP**
rccaraction.com

»»» Radar data and video online!

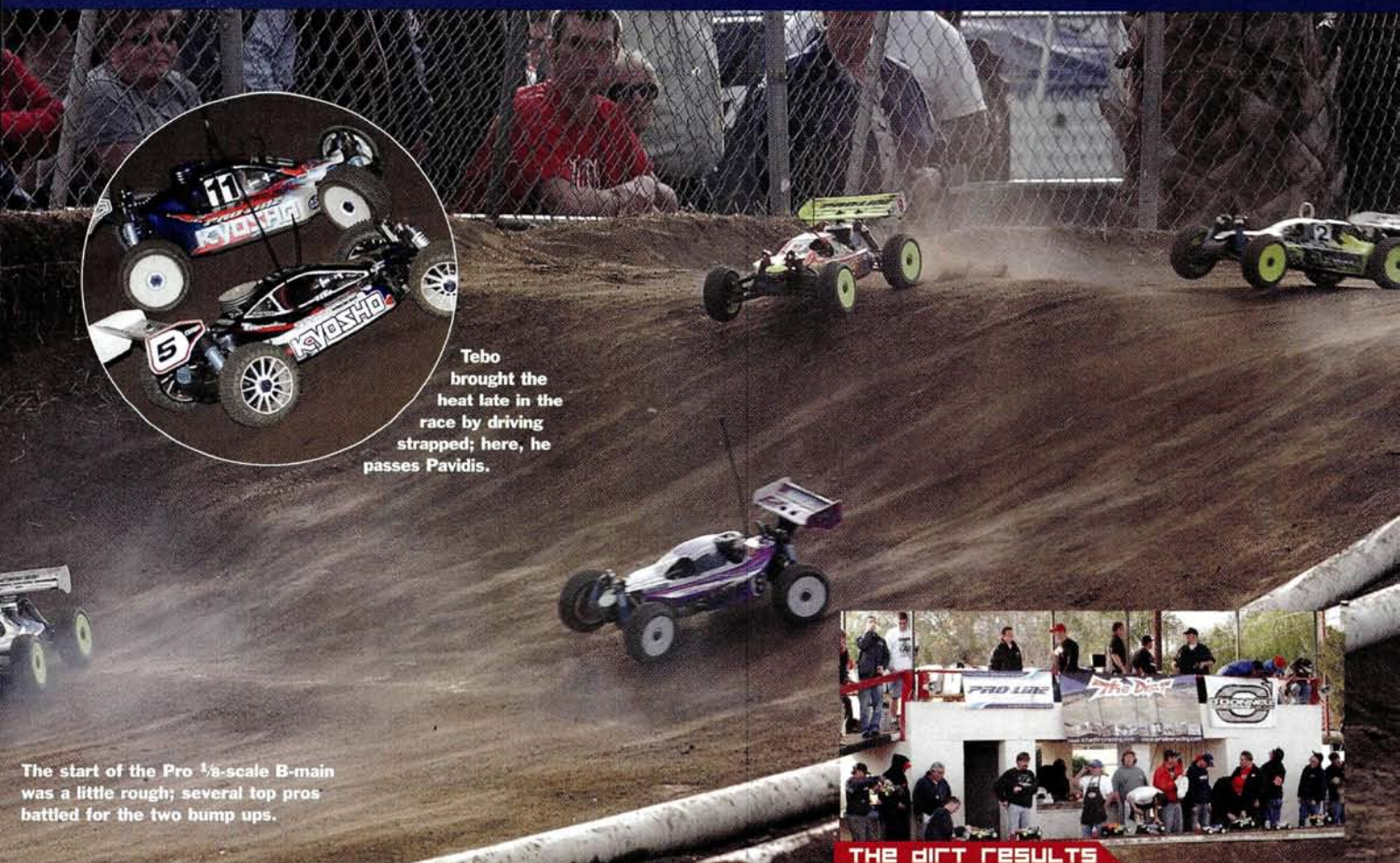
RATINGS

Instructions	●●●●●●●●●●	⊞	Assembly requires two manuals—a little confusing, but not bad.
Parts fit & finish	●●●●●●●●●●	⊞	Nicely stamped and molded parts, but a few sharp edges on the aluminum pieces.
Turn-in	●●●●●●●●●●	⊞	The high CG kicks over and puts weight on the outside wheel, and that gives the truck good grip.
Corner speed	●●●●●●●●●●	⌋	Not the greatest, but hey, it's a monster truck.
On-power steering	●●●●●●●●●●	⌋	The truck pushes a lot when powering through the turns.
Braking	●●●●●●●●●●	⊞	The brakes are almost too good; I had to roll them on carefully so the truck didn't end up on its lid.
Bump handling	●●●●●●●●●●	⊞	Those long shocks soaked up the small bumps well.
Jumping	●●●●●●●●●●	⊞	Once again, the long shocks did their job. The truck lands without much of a hop.

Best buyer»»» Monster truck fans who love lots of power



Tebo brought the heat late in the race by driving strapped; here, he passes Pavidis.



The start of the Pro 1/8-scale B-main was a little rough; several top pros battled for the two bump ups.

TEBO AND BRADLEY GET IT DONE AT THE DIRT

The Dirt Nitro Challenge has grown year after year, thanks to the hard work and dialed track layouts created by owner/operator Joey Christenson. This year, the track was completely under water just a day before the race. His crew literally worked around the clock to ensure that the more than 470 entrants would have a track to run on. Steel jumps were a new element that some racers liked and some just couldn't figure out; the jumps developed "kickers" that launched cars a little sketchy.

Team Associated/Kyosho/O'Donnell ace Jared "The Kid" Tebo won both the 1/10-scale and 1/8-scale Pro classes. In the Unlimited Monster Truck class, Mugen's Chad Bradley TQ'd and won with the new Mugen MBX5-T truggy that will be offered as a conversion kit for the MBX-5 buggy. Tebo TQ'd 1/10 scale and managed to break away from an early battle with Team Trinity/Losi's Adam Drake. In 1/8 scale, The Kid put in a valiant effort late in the race to pass Kyosho/Peak driver Mark Pavidis with just a couple of minutes remaining in the race. Eighth-scale TQ Ryan Cavalieri passed Pavidis with seconds remaining and grabbed second. Although Bradley TQ'd and won the Monster Truck class, Matt Gosch's strong second-place finish earned him a 100-percent Pro-Line ride—and did we mention he's just 13 years old? Mugen's Jason Ashton (also running an MBX5-T) was on fire and bumped all the way up from the G-main (the lowest Main for monster trucks) to take home third place. Ashton even led part of the A-main despite being 12th on the grid for the start of the race. Look for full coverage in the next issue of *RC Nitro*!



THE DIRT RESULTS

1/10-scale Pro	Chassis
1 Jared Tebo (TQ)	Team Associated GT
2 Adam Drake	Team Losi Triple-XNT AD2
3 Jeremy Kortz	Team Associated GT

1/8-scale Pro	Chassis
1 Jared Tebo	Kyosho MP-777
2 Ryan Cavalieri (TQ)	Kyosho MP-777
3 Mark Pavidis	Kyosho MP-777

Unlimited Monster Truck	Chassis
1 Chad Bradley (TQ)	Mugen MBX5-T
2 Matt Gosch	Hot Bodies Lighting Pro
3 Jason Ashton	Mugen MBX5-T

The track was hurting the day before the race! That didn't stop Joey Christenson from busting his hump all night to get it up to race spec.



DEGANI TO OFNA

Former 1/8-scale off-road world champ Greg Degani will be running in the '05 season for OFNA. He will be racing and helping to develop OFNA's Hyper line of

buggies. Degani currently runs the OFNA/Picco P7-R engine and will run the latest OFNA engines. He looked good with his new ride and qualified fourth at The Dirt Nitro Challenge.

RICK HOHWART JOINS THE A-TEAM

Longtime Team Losi racer and Peak Racing head honcho/Team Orion manager Rick Hohwart will run the A-Team's off-road rides for the '05 season, but he'll stick with Tamiya and the 415 touring car for on-road events. Rick will be joined on the Associated dirt squad by Team Orion's Gary Guest, who will run the RC10GT at major races throughout the country.

RHEINHARD STICKS WITH TAMIYA

Marc Rheinhard—the "teen wheel"—will run Tamiya tourers for the next two years. We don't think he'll get the kind of cash basketball players get, but by the looks of this picture, he seems to be happy. Rheinhard will continue to run Team Orion Revolution modified motors and Orion cells.



ROAR INDOOR ON-ROAD NATS: FIRST WIN FOR BRUSHLESS POWER

Brushless motors and controllers have run independently in exhibition classes at ROAR Nationals, but at this year's Indoor On-Road Nationals in Connecticut, they competed head to head with brushed motors in the modified-powered classes. Using an LRP Sphere controller and a Reedy NEO-One brushless motor, Jon Orr (top left) of Team



Associated took first in the 1/12-scale Modified Class, and that gave brushless technology a win in its first official race. Corally's Chris Tosolini (above right) scored the biggest win of the weekend by taking Mod Touring, while Team XRAY's Mike Dumas took home the 19-Turn Sedan trophy. Look for more coverage in the next issue!



RACEPS' RIDES

Rick Hohwart >> NASA Honda Challenge Civic

Neon? Spinners? Big goofy wing? Forget it. Rick's Civic is all about door-to-door racing in the popular NASA Honda Challenge series.



Naturally, there's a 6-point rollcage to keep Rick from getting scrambled, and a lot more horsepower between the front wheels than

a 90hp stocker. The Honda's well-massaged motor has a shaved head, port-matched intake and exhaust, oversized pistons and high-flow headers, and delivers more than enough power to light up the Toyo RA-1 spec tires. The suspension features coil-over shocks with adjustable toe, camber and ride height, and the entire interior has been gutted except for a driver's seat and 5-point harness. "The 18-race series is a real adrenaline rush," says Rick. We don't doubt it.

IFMAR ANNOUNCES WORLDS' TIRES

The tires for this year's IFMAR 1/10-scale Off-Road Worlds to be held in Italy have been chosen. For 2WD, Pro-Line Holeshots will be the mandatory rear tires. Front tires and inserts for 2WD are up to the each driver's preferences. In 4WD, Team Losi Blockhead front tires and X2000 rears will be standard issue, and the stock foam inserts must be used. All tires will be checked in and out of tech to thwart rule-benders, and the tires must also be glued under the supervision of IFMAR officials.

2WD rear tires >>>
Pro-Line Holeshots

<<< 4WD front tires
Team Losi Blockhead

>>> 4WD rear tires
Team Losi X2000



RACER NEWS

BY GEORGE M. GONZALEZ

UNDER THE HOOD

Adam Drake's

Team Losi Triple-XNT Adam Drake II

RACE GEAR

Transmitter Airtronics M8
Receiver Airtronics 27MHz FM
Steering servo Airtronics 94360
Throttle servo Airtronics 94737
Engine Trinity/Sirio .12 Evo 2
Clutch MIP 2-shoe with Team Losi spring
Manifold Team Losi
Pipe Team Losi Drake

Fuel Trinity Platinum 20%
Glow plug MC59
Tires (F/R) Team Losi Red IFMAR
Pins/Team Losi Red Directional
Inserts Team Losi firm
Body Team Losi AD2
Gearing 18T/51T



SETUP	FRONT	REAR
Camber	-1.5 deg.	0 deg.
Caster/rear pivot support	Stock	2 deg. (0.020 shim under pivot)
Toe	1 deg.	4 deg. in (inside); 0 deg. in (outside)
Ride height	Arms level	Arms level
Washers under steering ball stud	1	-
Bellcrank ball-stud washers	0	-
Servo position	Front	-
Bellcrank ball-stud location	Outside hole	-
Spindle location	Bottom	-
Shock fluid	30WT Losi	40WT Losi
Shock piston	56 (standard)	56 (drilled)
Shock limiters (inside/outside)	0.120	0
Shock springs	Red	Orange
Shock mounting (susp. arm)	Middle hole	Upper 2nd from inside
Shock mounting (tower)	No. 2 hole	Outside hole
Camber link (inside/outside)	B/3	A/2
Camber-link ball-stud washers	1	1
Rear-hub spacing	-	Stock
Swaybar	No	No
Driveshafts	-	Losi Crossbones
Outdrives	-	Steel

FACTORY & AFTERMARKET OPTIONS

Team Losi

- Titanium ball studs

Team Trinity

- Aluminum front pivot
- Aluminum shock nuts
- Blue aluminum nuts and washers

Lunsford

- Titanium front axles
- Titanium shock mounts
- Titanium screws

O'Donnell

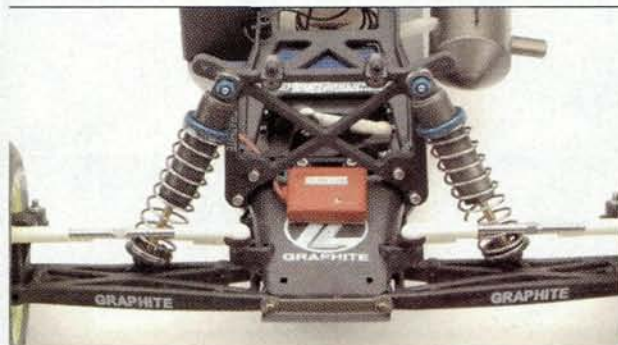
- Cooling head
- Dual-chamber tuned pipe

Racers Edge

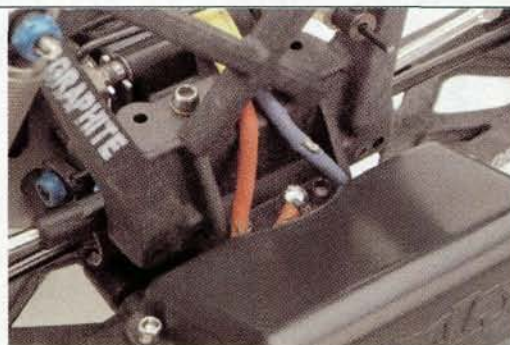
- 1100 NiMH receiver pack

FIND IT

»» Go to page 244 for manufacturers' contact information



The best place to mount a transponder is as far up front as possible because photo finishes are common in RC. Adam's truck is stock except for the ball joints, the titanium screws and the aluminum front-pivot support.



Adam removed a small piece of shrink-wrap from the negative battery lead and soldered a jack on the positive battery lead. He can now charge the receiver battery without removing it from the battery holder.

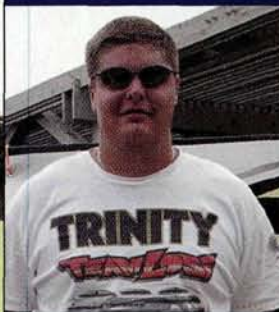
5 QUESTIONS

DRIVER: ADAM DRAKE

AGE: GETTING TOO OLD

LAST BIG WIN: CRCRC MIDWEST INDOOR GAS CHAMPS
1/10-SCALE TRUCK AND 1/8-SCALE BUGGY

SPONSORS: TEAM LOSI, TRINITY, SIRIO, TEMPGUN.COM, AIRTRONICS, LUNSFORD, MIP, A-MAIN BODIES, SKIPGEAR.COM, HT BATTERIES, MAXSPEED DESIGNS, VINYL GRAPHICS, KING HEADZ, JAMMIN' PRODUCTS, PACIFIC COAST HOBBIES, NOVAK, THE DIRT AND THEDRAKE.NET



WHEN I'M NOT RACING I LIKE TO: HANG OUT WITH FRIENDS, CLUB RACE AND WATCH MOTOCROSS AND SUPERCROSS EVENTS ON TV OR LIVE.

RC CAR ACTION: did we just talk to you, like, two issues ago?

ADAM DRAKE: Yeah; for the Jammin' buggy.

RCCA: That explains the déjà vu. Let's talk about your truck. The Losi Triple-XNT Adam Drake II is named after you, so you obviously had a lot to do with its design.

AD: I'm really proud of the entire truck. The universal front and rear wheels and quick change are my favorite parts. Those features make it much easier to find and then change out for the correct tire combo at a new track. There's also a lot of detail to the new truck like the machined chassis, fuel-line clips, hard-anodized aluminum parts, aluminum rear-hub carriers, oversize rear-hub bearings, cross-bones, heavy-duty thrust assembly, to name a few.

RCCA: What are the major differences between this new truck and the previous version? Will the improvements make the average driver faster on the track?

AD: The AD2 has a lot more rear traction, and it's better in the bumps; those things help a lot. The new truck is also much more durable. This will help not only the average racer but also pro racers.

RCCA: I like the quick-change rear axles. Have you ever had to change tires during a run? How quickly can you change out a set of tires?

AD: Yes; I have changed tires during a race. At The Dirt Nitro Challenge, I started the Main with Team Losi Studs. As the track dried out, I switched to Team Losi IFMAR Pins. You can change tires in about the time it takes to put fuel into the truck. The quick-change feature is also an awesome way to test tires in warmup and practice. During the five-minute A-main practice at the Nitro Challenge, I tried three different rear tires.

RCCA: You prefer to use a rotary carb instead of a slide carb; why is that?

AD: The linkage is cleaner and easier to set up on a rotary carb. I do run a slide carb at times, but I usually stick with the rotary.

RCCA: I hear that the AD2's standard setup works very well on most tracks. Do you deviate much from the box-stock setup? Which adjustments do you make most often?

AD: I usually stay very close to my standard "The Dirt" setup. Tires and inserts are very important tweaks when the track conditions change. As for chassis adjustment, I usually fine-tune my setup with ride height, camber, toe-in and oil depending on the outside temp. ■

Factory Driver HOT MOD

Adam grinds a flat spot on the rear inner hinge pins so that the setscrews have a flat surface to grab. He used a Dremel equipped with a sanding drum or cutoff wheel to grind the flat spots on the pins.



Adam's truck is powered by a Sirio .12 Evo 2 rear-exhaust, rotary-carb engine. Adam prefers the rotary-carb version to the slide-carb version because it simplifies the throttle-linkage-routing considerably. Those four zip-ties ensure that the tuned pipe doesn't come apart in the heat of battle.





SPONSORED BY: TRINITY • RADIO CONTROL CAR ACTION

MIKE BOYLAN'S 2005 SNOWBIRD

On-road and oval meet for the year's biggest race

ONCE AGAIN, Mike Boylan's Snowbird Nationals, now in its 11th year, proved to be the big daddy of indoor carpet racing. The Birds (as it's commonly referred to) is well known for its ability to draw racers from around world, and it again attracted representatives from at least eight countries and no less than 28 states. The Snowbirds is pure competition at every turn: it meshes the agility and speed of hundreds of on-road and oval racers while testing their limits of concentration and sleep deprivation as well as their desire to win. In this amazing race, participants must not only outdrive but outlast their competition.



ADDITIONAL SPONSORS: BADD OG RACING • BANDIT RC PRODUCTS • CYRUL ENGINEERING FX • COMPETITION ELECTRONICS • PEAK • HOBBYTALK.COM • HURRICANE MOTORSPORTS • HYPERDRIVE RACING • IRÉ GANG RACING SERVICE • JACO • JAKE'S P RACING • PARMA/PSE • POLE POSITION BATTERIES • PRECISION RACING SYSTEMS • PROTOFORM • PUTNAM PROPULSION • RA SPEKTRUM • STEEL CITY HOBBIES • SUPERIOR HOBBIES • SURESHOT RACING • TEAM 1:R/C RACING PRODUCTS • TEAM-CORALLY



SOCIATED • TEAM LOSI • XRAY

by Kenny Bergschultz

NATIONALS

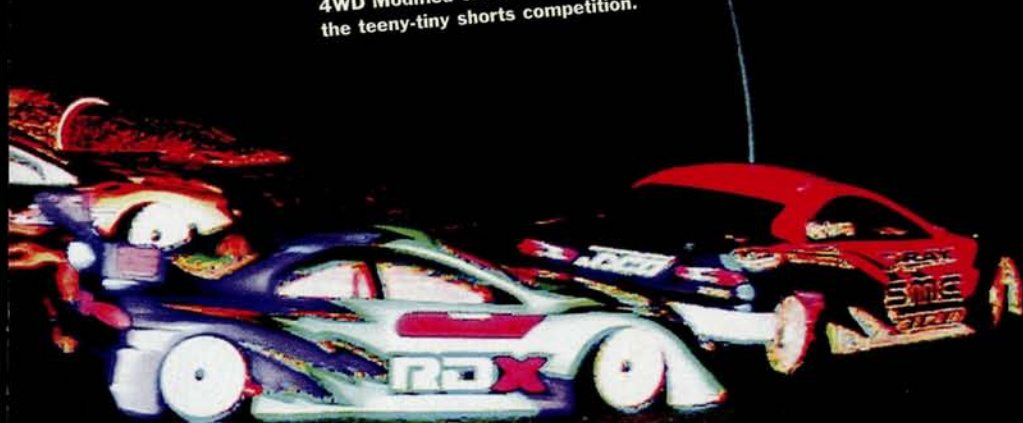
PHOTOS BY KENNY BERGSCHULTZ



Jilles Groskamp (center) won the Speedmind 4WD Modified class. He finished dead last in the teeny-tiny shorts competition.



Oval legend Frank Polimeda smoked the KSG Factory Mod class. "Here ladies, hold my plaques!"



ORKS • CALANDRA RACING CONCEPTS • DARKSIDE MOTORSPORTS • EA MOTORSPORTS • FUSION BATTERIES • GS HOBBY • GOLD
NCE HOBBIES • JOHNS BSR RACING TIRES • KMR BATTERIES • KSG MOTORSPORTS • MDI RACING • NORRCA • NOVAK • ONTRACK
RESTAURANT IN ORLANDO • RC4LESS • RIP MOTORSPORTS • SCHUMACHER • SILVA CONCEPTS • SMC • SLICK ZERO • SPEED MIND •
TO HOBBIES • ZUBAK SPEED JUICE

ON-ROAD A-MAINS

MDI RACING 4WD STOCK

The 10 best drivers steamed into the keyhole after a surprising bottleneck at its entrance: first was Jeff Cuffs and his Corally RDX; second, Raymond Darroch and his Losi Triple-XS; third, Peter Robinson's XRAY T1 ride. Darroch did his best to work over Cuffs throughout the race until he hit a pipe going into the keyhole. At the final checkers, it was Cuffs first, and Darroch and Robinson second and third.

COMPETITION ELECTRONICS GTP STOCK

The drop of the flag again caused a bunch-up into the keyhole. After the racers had sorted themselves out, Jeff Dayger's CRC Carpet Knife ride led the early sprint, with back-to-back Snowbird champ Mark Smyka (in this class) just 1/2 second behind, and Mark Calandra's CRC Carpet Knife in tow. Grinding and bumping through the S's moved Calandra briefly to first, until Smyka separated himself from the pack and set the cruise control. Wynn was second until lap 28; then he and Calandra kept changing positions for five laps, until Calandra, at last, nailed second; Smyka claimed his hat-trick title here with his CRC Carpet Knife.

GS HOBBY 4WD EXPERT 19-TURN

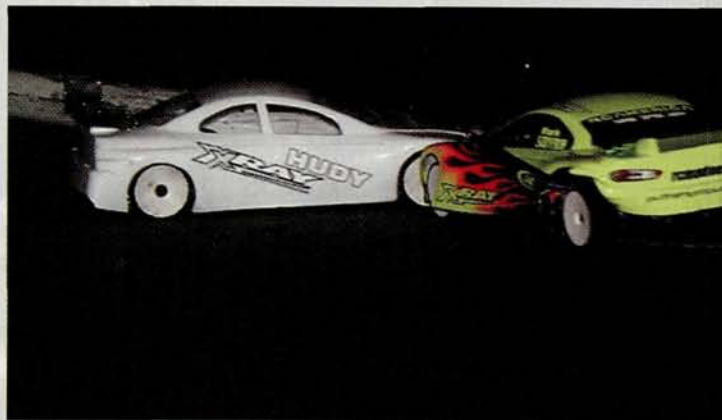
Jilles Groskamp, driving an XRAY T1, was on rails all race long and became the second pole-sitter to win the Main. Thanks to a messy start in which Brian Kinwald's Losi JRX-S became the punching bag, Groskamp easily led from the start and never looked back. Chris Tosolini's Corally RDX flirted with Groskamp in the early laps, but third-place Mike Dumas driving his XRAY was not to be denied a higher finish. He slid to the inside, rubbed door panels in the keyhole with Tosolini on lap 12 and snatched second place. Crossing the line, it was Groskamp, Dumas and Tosolini.

SLICKZERO GTP MODIFIED

Blackstock jumped from the pole position to an early lead with his Associated 12L4 and held it while Jon Orr with his Associated chassis, Kinwald with his Trinity ride and Tosolini chased him down. At the 4-minute mark, Blackstock's lead was in jeopardy when, going through the sweeper off the long straight, he hit the pipe and was stuck for a few seconds (a lifetime for modified drivers!). This allowed Orr, Kinwald and Tosolini to pass. Coming through the chicane, Orr caught a pipe, collecting Kinwald and Blackstock briefly. Tosolini was now in the top spot; Kinwald regained control of his car and tried to chase down the leader. With 20 seconds on the clock, Tosolini's car slowed down just enough for Kinwald to close the gap. He made up ground going through the sweeper and onto the straight, but it wasn't enough: Tosolini finished about a car length ahead of Kinwald.

PROTOFORM 4WD SPORTSMAN 19-TURN

Pole-sitter Smyka's XRAY and Jeff Cuffs and Mo Denton's Corally RDXs pulled through the typical first-turn mess to lead the pack.



Mike Dobbs, also with a Corally RDX, surged behind Denton and worked relentlessly until he was in third position. It looked as if that's how they'd finish, until Smyka, coming out of the keyhole, drilled the infield pipe and handed the lead to Cuffs, who never looked back. At the tone, Cuffs took his second Snowbirds win of the day, with Smyka second, and Dobbs hung in for third.

SPEEDMIND 4WD MODIFIED

Just as in the earlier classes, chaos ensued as the field of big boys blasted off to the keyhole, where "rubbing is racing" and luck is king. Pole-sitter Groskamp came through to the top unscathed but chased by Blackstock and Tosolini.

Although Blackstock was on the hunt, Groskamp's XRAY kept turning the fastest laps. The final count gave the second win of the day to Groskamp and the XRAY camp, with Blackstock's Associated second and Tosolini's Corally third.

OVAL A-MAINS

ONTRACK RACING STOCK

This class is the purest form of oval racing, yet it requires the most effort, time and practice. Four-cell stock racing requires a smooth, efficient chassis and a repetitive hand on the control; oh yeah,

ON-DEMAND RESULTS!

This year's Snowbirds broke into the 20th century with "on-demand" race results brought to the masses by rResults.com and Dave Croy. Through the use of wireless technology, those within range of Croy's "airport" had 24-hour access to the results as they occurred! No more listening to your buddy telling how he was on a TQ run until "that crash" took him out of contention, or trying to see what the competition ran, only to find that their lap times were cut out, or that the whole heat sheet was simply gone! The site was also available online for the rest of the world to review as well—too cool! I vote to bring it back next year! Nice job, Dave!

Mike Boylan also added the additional "window" to the world for a peek into the Snowbirds. Boylan provided a 24-hour, live webcam of the activities; even though they were still frames, the excitement was there. It was really cool to hear drivers on their cell phones calling home to mom or their spouses and friends, saying, "Look now; we're up!"



Slickzero GTP Modified



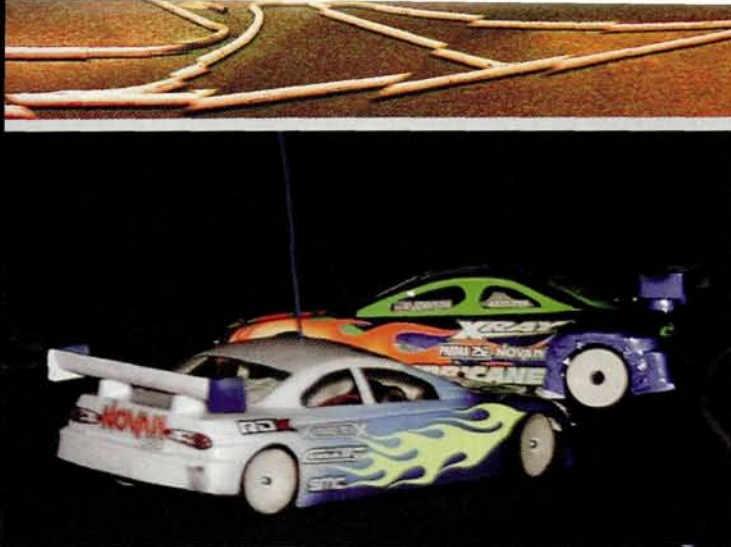
Ontrack Racing 4-cell



RC4Less Expert 19-turn



Competition Electronics GTP Stock



some luck as well.

Steve Peake and his KSG got the holeshot and led the stampede down the front stretch into turns one and two, with Doug

Parisano's Custom Works ride second and TQ Chris Ulbrink and his Leading Edge third. With only two laps completed, Ulbrink dropped out, and Jodi Miller took over the third spot. In lap 8, Eric Salvas made his way through the field to second while Chris Rhinehart assumed third with his KSG. Adam Brown's RIP Motorsports ride wanted a piece of the action and passed Rhinehart on lap 28. The new leading trio maintained positions until lap 50, when Salvas was bumped going into turn one and was sent all the way to eighth. After some late-race moves, the finish order was Peake, Brown and Rhinehart.

BADDOG 1/12-SCALE 19-TURN

Sonny Brown tore up the track from the tone. Brown, Corey Heft and Barry Hill took control, until two laps later, when

Heft's Hyperdrive was part of track carnage and allowed Hill's Hyperdrive to take second and Tom Postalwait's Hyperdrive to sneak into third. Hill held off Postalwait until lap 18, when Postalwait took over, sending Hill "downhill" to fifth position. As all this unfolded, Brown kept his pace with very courteous driving by lapped traffic. Steve Pemberton's CRC Razor moved into third on lap 30 and then, being consistent and with more power than Postalwait, he assumed the second spot in lap 45. At the tone, Brown took the top spot, and Pemberton and Postalwait were one lap down.

POLE POSITION SPORTSMAN 19-TURN

Survival of the luckiest! The start tone ended the prerace silence, and sounds of breaking graphite and crunching Lexan quickly filled the air. Thanks to its pole position and holeshot, Hill's Hyperdrive took the lead. Jim Fuller, driving his Associated 10L4 from the fourth position, wanted better and set in behind Hill, who turned consistent, quick times. Peter Coll and Walter Stuber came to play and battled for third. On lap 36, Stuber and his RIP Motorsports ride wanted it more and stole the third spot from Coll. At the final count, it was Hill followed by Fuller and Stuber.

RC4LESS EXPERT 19-TURN

Speeds are picking up in the RC4Less Expert 19-turn class! With a full grid of well-known oval and on-road modified racers, the crowd was poised for a showdown. The grid was set, and from the start, it was Greg Honeycutt's Silva Concepts chassis trailed by Rick Talbot's KSG and Barry Baker's Associated 10L4. The field couldn't settle down quickly enough, and at one point, Steve Salvas was in the turn-four catch fence as the field continued to shuffle. On lap 7, Baker took the top spot as Talbot and Honeycutt got caught up in accidents, which ultimately parked Honeycutt. The only person with a chance to beat Baker was Warren with his KSG, but too much space between them prevented Warren from catching up. In the end, it was on-road master Baker, Warren and then Talbot.

RIP 1/12-SCALE PRO MODIFIED

Pole-sitter Josh Cyrul and his CEFX had every chance to lose the race with self-inflicted spins in laps 3 and 4. Soon, the familiar scene of Phil Marabella and his Custom Works ride led; however, Cyrul was a man on a mission as he hunted down his prey on lap



Steel City Hobbies conducts interviews in the pits.

SNOWBIRDS: THE DVD

Where else but at the Snowbirds can you walk off the drivers' stand and be interviewed by the voice of the Hooters Pro Cup Series on Speed Channel—Mr. Gene Crane himself. Crane provided spectators with trackside interviews at the end of each Main and handled the driver trophy introductions.



Speed Channel's Gene Crane.

Steel City Hobbies taped all the Mains and provided a unique opportunity for the racers to gain a copy of their Main on DVD. Sweet! Steel City Hobbies also wandered through the crowds and conducted pit interviews. DVDs can be purchased through steelcityhobbies.com.



Team Losi's Bobby Flack tries to remember how his JRX-S goes back together.



RIP 1/12-scale Pro Modified



Pole position Sportsman 19-turn



Baddog 1/12-scale 19-turn



PRS Touring 19-turn

2005 SNOWBIRD NATIONALS

winners

MDI RACING 4WD STOCK

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	TIRES	BODY
1	1	Jeff Cuffs	Corally RDX	Handout	Epic EVO 3	Novak GTX	KO Propo	TRC	Parma Alfa
2	3	Raymond Darroch	Losi XXXS G+	Handout	Kinetix	Novak GTX	JR R1	Parma	Parma
3	2	Peter Robinson	XRAY T1 Factory	Handout	Fusion Power	Novak GTX	KO Propo	Parma	Parma Alfa
4	7	TJ Bradley	Corally RDX	Handout	Kinetix	Novak GTX	Airtronics	Jaco	Parma Alfa
5	4	Jason Schreffler	Yokomo SD	Handout	Whiplash	Keyence	Futaba 3PK	Jaco	Parma Alfa

COMPETITION ELECTRONICS GTP STOCK

1	5	Mark Smyka	CRC Carpet Knife	Handout	SMC	Novak	Airtronics M8	Jaco	Parma
2	8	Mark Calandra	CRC Carpet Knife	Handout	Pro-Match	Novak GTX	JR R1	CRC	CRC
3	9	Brian Wynn	CRC Carpet Knife	Handout	Pro-Match	Novak GTX	KO Propo	CRC	Parma
4	10	Drew Ellis	SpeedMerchant	Handout	Hurricane	Novak GTX	KO Propo	Jaco	Parma Speed 8
5	1	Jeff Dayger	CRC Carpet Knife	Handout	SMC	Novak GTX	Futaba 3PK	CRC	Parma Speed 12

GS HOBBY 4WD EXPERT 19-TURN

1	1	Jilles Groskamp	XRAY T1	Handout	Peak GP	Hara Twister 2	Sanwa	Jaco	Parma Alfa
2	6	Mike Dumas	XRAY T1	Handout	Epic	Novak GTX	JR R1	TRC	Parma Alfa
3	2	Chris Tosolini	Corally RDX	Handout	Pole Position	LRP	Airtronics	Parma	Parma Alfa
4	8	Sakke Ahoniemi	Corally RDX	Handout	Corally	Corally	Airtronics	Parma	Parma Alfa
5	10	Joel Myrberg	XRAY	Handout	SMC	Advanced V5	Futaba 3PK	Jaco	Protoform Alfa

SLICKZERO GTP MODIFIED

1	6	Chris Tosolini	Corally SP12	Team Brood	Pole Position	LRP	Airtronics	Parma	Parma Alfa
2	2	Brian Kinwald	Trinity	Trinity	Trinity	Novak GTX	Airtronics	TRC	Protoform
3	1	Mike Blackstock	Associated 12L4	Reedy 10x2	Reedy	Novak GTX	KO Propo	Jaco	Protoform
4	4	John Orr	Associated	Reedy 10x2	Reedy	LRP	KO Propo	Jaco	Protoform
5	5	Hubert Honig	CRC T-Force	LRP 10x2	Reedy/LRP	LRP	Airtronics	CRC	CRC

PROTOFORM 4WD SPORTSMAN 19-TURN

1	2	Jeff Cuffs	Corally RDX	Handout	Epic	Novak GTX	KO Propo	TRC	Parma Alfa
2	1	Mark Smyka	XRAY	Handout	SMC	Novak GTX	Airtronics	Jaco	Parma Alfa
3	3	Mike Dobbs	Corally RDX	Handout	Express Motorsports	LRP	Airtronics	Jaco	Parma Alfa
4	5	Mo Denton	Corally RDX	Handout	EA Motorsports	Novak	INS	Parma	Parma Alfa
5	7	TJ Bradley	Corally RDX	Handout	Kinetix	Novak	Airtronics	Jaco	Parma Alfa

SPEEDMIND 4WD MODIFIED

1	1	Jilles Groskamp	XRAY T1	Peak V2	Peak	Hara Twister	Airtronics	Jaco	Parma Alfa
2	5	Mike Blackstock	Associated TC4	Reedy	Reedy	Novak GTX	KO Propo	Jaco	Parma
3	7	Chris Tosolini	Corally RDX	Airtronics	Pole Position	LRP	Airtronics	Parma	Parma
4	9	Ralph Burch	XRAY FK05	Epic	SMC	Novak GTX	KO Propo	Jaco	Parma Alfa
5	2	Joel Myrberg	XRAY T1	Fantom	SMC	Advanced	Futaba 3PK	Jaco	Protoform Alfa

INS= Information not supplied by driver

56 and then worked through the remaining traffic. Marabella didn't know what went by him, and when the smoke settled, it was Cyryl, Marabella and Dwight Smith in third.

PRS TOURING 19-TURN

This class was the day's stress reliever. All drivers were full-bore and all-out. A spectator accurately described the race as cars being in a dryer set on tumble dry! Eugene Ryder's XRAY took the win, Ken Campbell's XRAY was second and Scott Meeks' Corally third.

DARKSIDE PRO MODIFIED

Using his pole position, Team Associated's Sean Cochran set the pace early and kept other drivers at bay until his Associated almost traction-rolled out of turn two and lost momentum. That slight blip allowed Frank Polimeda and his Custom Works mobile to close in and eventually take the lead. But Cochran was not out yet. He tried to set up an inside pass on Polimeda and worked him over for about six laps trying to get by. On lap 63, at last, Cochran forced his way inside Polimeda and secured the top spot. With two laps left, it ended Cochran, Polimeda and Honeycutt.

KSG FACTORY MODIFIED 6-CELL

If someone says that driving an RC car is simple, hand that person a 6-cell modified car! The \$500 winner pot sitting at the finish line was

RACE FORMAT

The Snowbird Nationals is a unique race that never stops except to change the track from Oval to On-road and vice versa. The Snowbirds runs a true winner-takes-all format with only single Mains. Now that's racing! Holding to a strict schedule that kicked off on Tuesday at 4 a.m., the timetable for the week was as follows:

- > **TUESDAY:** Oval practice—4 a.m. to 4 p.m.
On-road practice—4 p.m. to 4 a.m.
- > **WEDNESDAY:** Oval practice—4 a.m. to 12 p.m.
On-road practice—12 p.m. to 8:30 p.m.
On-road club race at 8:30 p.m.
- > **THURSDAY:** On-road practice from end of previous on-road club race until 12 p.m. Mandatory drivers' meeting at 12 p.m. Oval practice—12:30 p.m. to 8:30 p.m. Oval club race at 8:30 p.m. with practice afterwards until On-road practice at 4 a.m.
- > **FRIDAY:** On-road practice at 4 a.m. On-road first qualifier at 6 a.m. Oval practice—1 p.m. to 3 p.m. First and second Oval qualifiers at 3 p.m.
- > **SATURDAY:** On-road practice prior to second and third qualifiers, and then Oval third qualifier.
- > **SUNDAY:** 6 a.m. On-road Mains start, directly followed by Oval Mains. Tired?

2005 SNOWBIRD NATIONALS

ONTRACK RACING 4-CELL STOCK

FIN.	QUAL.	DRIVER	CHASSIS	MOTOR	BATTERY	ESC	RADIO	TIRES	BODY
1	2	Steve Peake	KSG	Handout	TQ Cells	LRP	KO Propo	BSR	Protoform Dodge
2	6	Adam Brown	RIP Motorsports	Handout	Whiplash	INS	INS	INS	INS
3	4	Chris Rhinehart	KSG	Handout	SMC	KO Propo	KO Propo	Jaco	Protoform
4	8	Mike Bush	KSG	Handout	RC Professor	LRP	Futaba 3PJS	BSR	Bandit Taurus
5	3	Doug Parisano	Custom Works	Handout	Power Push	LRP	Futaba 3PK	Jaco	Protoform HD MC

BADDOG 1/12, 19-TURN

1	1	Sonny Brown	KSG	Handout	Hefty Cells	GM SX12	JR R1	BSR	Protoform Taurus
2	4	Steve Pemberton	CRC Razor	Handout	Pro-Match	Keyence	JR R1	CRC	CRC Monte Carlo
3	6	Tom Postalwait	Hyperdrive	Handout	Whiplash	Novak	Futaba 3PK	BSR	McAllister
4	8	Jake Rosen	Maverick	Handout	Check Point Cells	LRP	JR R1	BSR	McAllister
5	5	Barry Hill	Hyperdrive	Handout	KC Racing	Keyence	Futaba 3PK	BSR	Bandit Monte Carlo

POLE POSITION SPORTSMAN 19-TURN

1	1	Barry Hill	Hyperdrive	Handout	KC Racing	Keyence	Futaba 3PK	BSR	Bolink Monte Carlo
2	4	Jim Fuller	Associated 10L4	Handout	Fusion Power	Novak	Futaba 3PJ	RC4Less	Protoform MC
3	3	Walter Stuber	RIP Motorsports	Handout	SMC	LRP	KO Propo	Jaco	Protoform MC
4	2	Peter Coll	Custom Works	Handout	Whiplash	LRP	Futaba 3PK	Jaco	Protoform MC
5	10	Mike Bednar	INS	Handout	INS	INS	INS	INS	INS

RC4LESS EXPERT 19-TURN

1	3	Barry Baker	Associated	Handout	Reedy	LRP	Airtronics	Jaco	Parma
2	4	Gary Warren	KSG	Handout	SMC	LRP	Futaba	Jaco	Protoform
3	2	Rick Talbot	KSG	Handout	SMC	Futaba	Futaba	Jaco	Protoform Dodge
4	5	Mike Russell	Hyperdrive	Handout	KC Racing	INS	INS	INS	INS
5	10	Ritchie McDonald	KSG	Handout	KC Racing	LRP	Futaba 3PJS	Murdock	Bandit Monte Carlo

KSG FACTORY MODIFIED 6-CELL

1	1	Frank Polimeda	Custom Works	Truespeed	SMC	LRP	Futaba	Jaco	Protoform
2	4	Andy McClellan	KSG	Kisbey	SMC	Novak GTX	Futaba 3PK	Jaco	Protoform
3	5	Brian Ziegler	Silva Concepts	Reedy	Reedy	LRP	Futaba 3PJ	Jaco	Protoform
4	2	Josh Cyrul	Custom Works	Truespeed	SMC	LRP	KO Propo	Jaco	Protoform
5	7	Sean Cochran	Assoc./Silva	Reedy	Reedy	LRP	JR R1	Jaco	Protoform MC

RIP 1/12 PRO MODIFIED

1	1	Josh Cyrul	CEFX	Truespeed	SMC	LRP	KO Propo	Jaco	McAllister
2	6	Phil Marabella	IRS	Truespeed	Whiplash	LRP	Futaba 3PK	BSR	INS
3	4	Dwight Smith	KSG	Kisbey	Pole Position	Novak GTX	Futaba 3PK	BSR	Bandit
4	10	Craig Johnson	KSG	Fantom	Whiplash	Novak	Futaba	Jaco	INS
5	9	Tom Postalwait	Hyperdrive	Putnam Prop.	Whiplash	Novak	Futaba 3PK	BSR	McAllister MC

PRS TOURING 19-TURN

1	1	Eugene Ryder	XRAY	Handout	World Class	Tekin G-9	KO Propo	BSR	McAllister MC
2	7	Ken Campbell	XRAY	Handout	Pro-Match	Keyence	KO Propo	Jaco	Protoform
3	2	Scott Meeks	Corally	Handout	Pro-Match	Novak GTX	Futaba 3PK	Parma	Protoform MC
4	6	William Sell	Corally	Handout	SMC	Keyence	KO Propo	BSR	Protoform MC
5	8	Don Dolbert II	XRAY	Handout	Team Scream	Keyence	KO Propo	BSR	McAllister

DARKSIDE PRO MODIFIED 4-CELL

1	1	Sean Cochran	Associated/Silva	Reedy	Reedy	LRP	JR R1	Jaco	Protoform
2	3	Frank Polimeda	Custom Works	Truespeed	SMC	LRP	Futaba	Jaco	Protoform
3	4	Greg Honeycutt	Silva Concepts	Reedy	Reedy	LRP	Futaba 3PJ	Jaco	Protoform
4	2	Phil Marabella	Custom Works	Truespeed	Whiplash	LRP	Futaba 3PK	BSR	Protoform
5	8	Rick Talbot	KSG	Kisbey	SMC	Novak	Futaba 3PK	Jaco	Protoform

INS= Information not supplied by driver

anybody's for the taking! There was a lot of bumping and grinding, but class TQ Polimeda used his top position to advantage and again survived the carnage of cars flying everywhere. Andy McClellan's

KSG and Brian Ziegler's Silva Concepts duked it out for second. McClellan held the upper hand until lap 17, when he and Ziegler swapped positions. McClellan stayed on the wheel and reassumed second in the closing laps. Polimeda was first—now \$500 richer

and with another Snowbirds title; McClellan and Ziegler were a lap behind, for second and third, respectively.

WRAP-UP

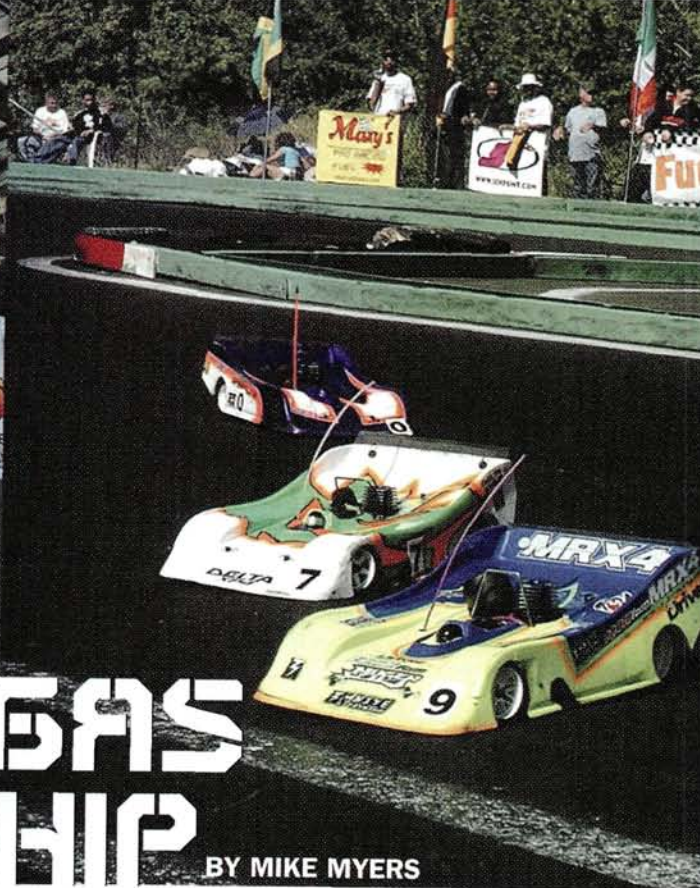
The Snowbirds is typically associated with long hours, exhausted racers and tough competition, but it also has the unique flair of intermingling on-road with oval racing, something not seen at any other race. Credit for this great race not only goes to the management of the program by Boylan and his supporting staff but also to the racers' desire to be part of the largest race in history. See you next year—all 800-plus of you! ■



"Your car is underweight; you're DQ'd. Hey, where's my tip?!"



Newly crowned Snowbirds champion Jilles Groskamp is about to take a dip, thanks to Drew Ellis.



2005

SOUTHERN GAS CHAMPIONSHIP

BY MIKE MYERS

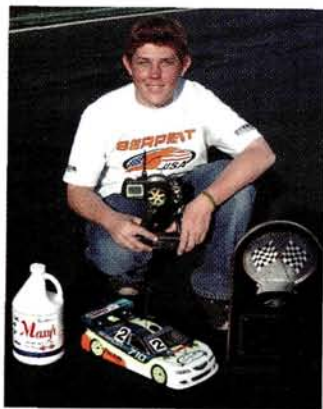
MUGEN AND SERPENT FLY FAST IN FLORIDA

While most of the U.S. endured an ice-cold condition known as "winter," the hottest place to be was Fort Myers, FL. Once again, sunny Florida was home to the Southern Gas Championships (otherwise known as the Winternats). On-road gas racers from around the world converge here each year for one great week of racing. A scheduling snafu required several of the top racers, including Josh Cyrul and Chris Tosolini, to choose between the Winternats and the Snowbirds—the big electric race in Tampa (and covered in this issue). They ended up endlessly charging batteries instead of enjoying the thrill of nitro. Too bad for them!

A-MAIN ACTION

200mm Sedan

Michael Salven's Serpent 710 took off in the lead, followed by Mike Swauger's Mugen MTX-3 and Scott Gray's Serpent 710. Salven's car didn't run properly, and Swauger's quickly got by it and pulled away. The lap times tell it all: Swauger's ranged from 13 to 13.3 seconds, Salven's from 13.2 to 13.5 and Gray's from 13.3 to 13.6 seconds. At the 5-minute mark, Swauger had half a lap lead, but in lap 22, his car died because of a clutch problem. So Gray took the lead, followed by D.J. Apolaro's Serpent 710. Salven's Serpent seemed to deteriorate as the race went on. Brandon McNally worked his Serpent 710 up into third place and tried to pass Apolaro, but he hit him and spun the car around; it was then clobbered by Paul Coleman's OFNA. Apolaro's car was OK, as was Coleman's, but McNally's suspension was destroyed on one side, and that ended the race for him.



Scott Gray poses with his Maxy's-powered Serpent 710. Note the foam tire on his Helios.

Rene Cornella, the Serpent 710's designer, and Darin Ishitani, with his Mugen MTX-3, were left to fight for third place. Ishitani took over third when problems forced Cornella to drop out in the final minutes as Scott Gray rolled in for the win.

1/8 4WD

This was the big one—the race everyone was waiting to see. The 45-minute A-main battle got off to a good start. TQ Swauger had set a new track qualifying record with his Mugen MRX-4. He took the lead with Salven's Serpent 950R right behind and followed by Gray's 950R. Swauger bobbled, Salven got past, and they pulled away from the others. On lap 7, they tangled in the hairpin before the timing line, and Swauger got the worst of it. In a nice display of sportsmanship, Salven waited for Swauger's car to be



Mike Swauger was the man in 1/8 scale. He TQ'd and won with a Mugen MRX-4.

MY FLORIDA WINTERNATS

by Mike Swauger

QUALIFYING

I struggled with fuel pressure in my sedan and wasn't able to run during the first two days. For the last day of qualifying, we ran the car a little rich and decided to make a pit stop just to get a run in. I drove in the middle of the track trying not to make any mistakes, and I ended up in sixth. My 1/8 car was a whole different story. I knew I could TQ, but going into the fourth round of qualifying, I did not yet have one complete run in. We decided to pit early and wound up second behind Michael Salven. On my qualifying run on the last day, I went punched! I was going to TQ or blow up my car, and luckily for me, I TQ'd and set a new track record! I was happy, not only about my performance but also for my new teammate Darin Ishitani, who qualified fourth in Sedan and sixth in Scale. That night, we ate some of Jim Rice's famous BBQ! It was awesome! We were ready for the Mains!

THE MAINS

200mm Sedan. This Main started off great for me: I took the lead by lap 3 and then started to pull away. I pitted early, not knowing



how far I could go on a tank after all the problems I had in qualifying. By the 5-minute mark, I led by about half a lap, but my car stopped at the end of the straightaway. Harry looked at it and saw that the clutch had a big meltdown. When we took it apart later, we found that debris had gotten into the flyweight and locked everything up.

1/8 4WD. The horn sounded, and I bobbled in the first corner! This let Michael Salven get by with his Serpent 950, so I tucked behind him in second. We battled for the next 2 minutes until we came together in the hairpin after the short shoot. I took the lead, and then we tangled in the hairpin after the chicane. Michael waited, but this let Scotty Gray get by with his Serpent. I chased him down, took over the lead and started to pull away. My car felt good, and by the halfway mark, I had a 2-lap lead, and then Michael had problems and had to drop out. Paolo Morganti took over second with his 950R, but with 6 minutes to go, his engine blew. This gave Chuck Moon second and Marco Vinni third, and that's how we finished.

THANK YOU

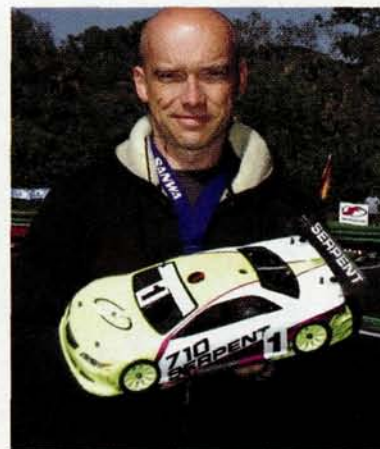
I want to first thank all of the Fort Myers crew for a job well done! I want to thank all of my sponsors: Mugen USA, JP, Kawahara, Airtronics, Kolors by Kropy and J&L EDM. And I want to thank all of the Team Mugen USA drivers for their support. See you next year!

marshalled, and they then resumed the race. Meanwhile, Gray had taken the lead. Nine laps later, Swauger caught Gray and took the lead. Near the halfway point, Swauger led the field by 2 laps, and the other positions seemed fairly stable for the second half. With 8 minutes left, Swauger's car started to look loose, and his pit crew determined that the rear body mount had gotten out of shape. Paolo Morganti's Serpent 950R was 1 lap down when his engine blew on lap 190. At the end of the race, only four cars were left: Swauger's in the lead, followed by Chuck Moon's Serpent 950R, Marco Vinni's Mugen MRX-4 and Dave Campbell's Delta XP4, and that's how they finished.

1/10 Outlaw

In Outlaw, two classes run together: 200mm cars (with any type of body; .12 engines; no restrictions on the number of ports) and older 235mm cars (.15 engines; again, no

restrictions). It had only one heat, so all the racers made it into the 45-minute A-main. Race director Jim Rice was TQ with his Serpent 835. With a wide mix of racer ability, it was a pretty rough Main, with lots of crashing and bashing. Marc Unger drove a nice line and stayed out of trouble to win the Main. He was followed by Jarrod Pilone and Allen Denzine. All three ran Serpent 835s.



Michael Salven was looking good, but mechanical troubles took him out of the running.

DRIVER	CHASSIS	ENGINE	RADIO	FUEL	TIRES	BODY
1/10 OUTLAW						
1 Marc Unger	Serpent 835	Novarossi	JR Racing	Byron	Twister	Serpent Lola
2 Jarrod Pilone	Serpent 835	NovaMega	KO Propo	Mugen	Ellegi	Serpent Lola
3 Allen Denzine	Serpent 835	Novarossi	Futaba	Byron	Ellegi	Serpent Lola
200MM SEDAN						
1 Scotty Gray	Serpent 710	Mega	KO Propo	Maxy's	Ellegi	Protoform Mazda 6
2 D.J. Apolaro	Serpent 710	Mega	Airtronics	Maxy's	Ellegi	Protoform Mazda 6
3 Darin Ishitani	Mugen MTX-3	JP	Airtronics	Byron	Fast Tires	Protoform Mazda 6
1/8 4WD						
1 Mikey Swauger	Mugen MRX-4	JP FX	Airtronics	Mugen	Kawahara	Mugen Lola
2 Chuck Moon	Serpent 950R	TQ Engines	Airtronics	O'Donnell	Ellegi	Serpent Lola
3 Marco Vanni	Mugen MRX-4	Novarossi	Airtronics	Mugen	GRP	Mugen Lola ■

Motor brushes have you confused?

Trinity's Chad Phillips is considered one of the best motor builders and tuners in the world. Chad takes time out from his busy schedule to give you the straight scoop on what brush you should be using to make the most power, last the longest and best overall back yard running. Use the chart below to end any confusion you may have on motor brushes.



Trinity's Chad Phillips Tells All!

Stock Laydown Motor Brushes

Part Number	Face	Name	**Silver Comparison Shunts	Use/Characteristics
TRI13506	A	XXX Lemans Compound		Single Super Long Lasting, with very good power in all conditions.
RC4505	B	Cross Cut 99 Plus		Single Chad's choice for serious stock racing, angled serrations keep comm cleaner longer between truing
RC4503	A	99 Plus		Single Same power as above, regular serrations allow easier trimming of brush face if so desired
RC4499	A	E Brush		Single The most popular stock motor brush in R/C
RC4504	B	Cross Cut E Brush		Single Highest power, angled serrations keep comm cleaner longer, more runs before cutting

ROAR/ARCOR stock motors by Trinity
Reedy, EPIC Team Brood
Team One Lightspeed Putnam
Bullit, etc.
Reedy Kr Modified
Chameleon Series

P-94 Style Modified Motor Brushes

TRI13504	G	XXX Lemans Compound		Dual Chad's choice for modified racing Super long lasting and very good power in all conditions. Comes in Cobalt
TRI13507	F	Oct XXX Lemans Compound		Dual Longest lasting very good power, runs a little bit softer than the TRI13504
EP1201	D	Monster Cross Cut Pro		Dual Chad's choice for 1/12th 4 cell modifieds
RC4379EP	C	Ultra High Silver Pro		Dual Good with 4 cell mod class racing
RC4383EP	C	P-94 Silver		Dual Long life with 10 turn and under modifieds
EP1200	D	P-94 Hard		Dual Good for low turn touring car motors (9 & below) in hot weather
RC4380EP	C	P-94 Hard		Dual Long life with 11 turn and over modifieds
RC4380E	C	P-94 Hard		Single Same as 4380EP but single shunt

Trinity P-94
D5, D6 Cobalt
EPIC Binary & Nineteen
also modifieds by
Birdman
Team Brood
Lightspeed
Bullit
Team One
SpeedGems
Pro Series

Standup Motor Brushes

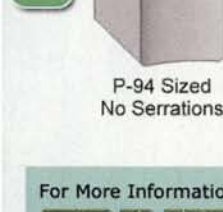
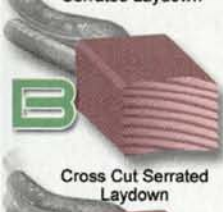
TRI13505	E	XXX Lemans Compound		Single Longest lasting and very good power
RC4383	E	Standard Silver		Single Very good 4 cell mod brush
RC4380	E	Standard Touring		Single Used in modified racing

ARCOR 19T
Modifieds by
Reedy, Orion,
Peak, LRP, etc.
SpeedGems 2
& most machine
wound mods

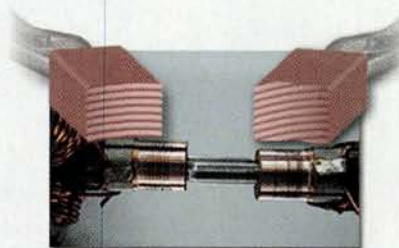
*Part numbers listed are brushes with terminals. For brushes without terminals add an "NT" after part number.

**Brushes are listed most silver to least amount of silver, chart shows comparison of silver content between different styles.

***The brushes listed in each section will work in any of the motors in the final column of that section.



Terminals (top) allow you to change your brushes with a screwdriver. The non-terminal brushes at the bottom must be soldered on. This makes a better electrical connection and is used on all "Pro" stock motors and handwound modified motors.



Regular serrations wear grooves into the commutator while the Cross Cut style serrations use the whole commutator surface. The result is longer commutator life like you get with a full flat faced brush but the performance of a serrated brush. The best of both worlds!

For More Information Visit



Chad's Stock Set-up
Touring Cars:
RC4505 Brushes
RC4396 Purple springs

1/12th Scale 4 Cell
RC4503 brushes with
horizontal slot or X cut
on the face to reduce
surface area
RC4393 Green springs



Chad's 19 Turn Set-up
Oval:
RC4505 brushes
RC4395 red springs

Touring Car
RC4499 brushes
RC4396 purple springs

Chad's Modified Set-up
Touring Car
TRI13504NT Brushes
RC4396 Purple Springs

1/12th Modified 4 Cell
TRI13504NT brushes with
horizontal slot on face to
reduce surface area
RC4393 green springs



DuraTrax IntelliPeak Ice

BARGAIN PRICE, PRO PERFORMANCE

IF YOU'RE SERIOUS ABOUT ELECTRIC RACING, there are some things you just can't skimp on. Tires and motors are high on the list, but batteries—and a pro-caliber charger to charge them—may be the most important and can certainly be the biggest budget-crunchers. Batteries still aren't cheap, but DuraTrax just took a huge bite out of the cost of pro-level charging with the new IntelliPeak Ice charger. It has every feature you could ever need, it stores all the data necessary to pick the best A-main packs, and it can display charge and discharge curves. It can even charge Lithium-polymer (Li-poly) and Lithium-Ion (Li-ion) cells for you big-power guys. And it costs only about \$150 compared with \$300-plus for chargers with similar features. If it works as promised, the Ice could be racing's biggest bargain.



FEATURES

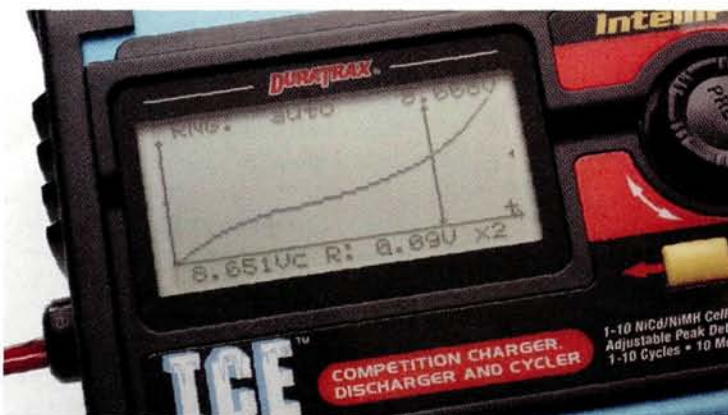
LI-POLY AND LI-ION COMPATIBLE. Not using the new cell technologies yet? If the RC plane scene is any gauge, you soon will be (and if you're into micro-RC, you probably already are). The Ice is ready for both, and it has special software and charge modes designed specifically for the new cells, which are nothing like the Ni-Cds and NiMHs we're used to.

ALUMINUM CASE WITH COOLING FAN. The Ice's side panels and faceplate are plastic, but the main body is a thick-walled, finned extrusion that should have no trouble dissipating heat, especially with the unit's side-mounted fan blowing a steady breeze through the fins.

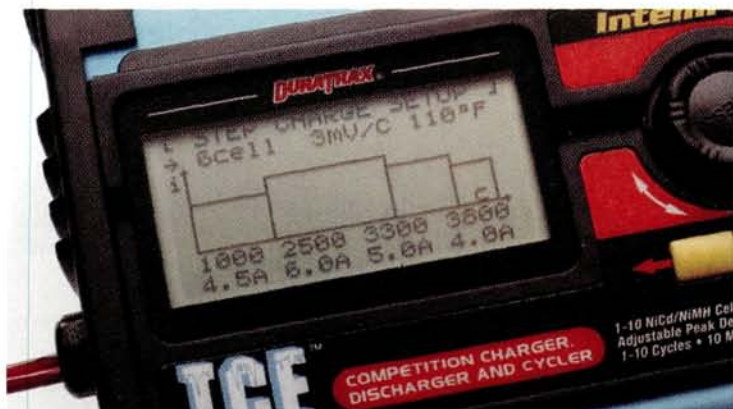
8x21 DOT-MATRIX DISPLAY. This type of display is much preferred over a 7-segment calculator-type display because it can handle more characters and can also display graphics. For the Ice, that means showing you the charge and discharge curves, plus all sorts of alphanumeric info such as input/output voltage, battery resistance, maximum battery temperature, charge/discharge amperage and pack capacity.

DELTA-PEAK, MAXIMUM CAPACITY AND TEMPERATURE-CUTOFF CHARGE TERMINATION. It's your choice: you can set the Ice to look for a voltage drop as the indicator of the pack's fully charged status, or you can use the temp probe to monitor the pack's temperature and shut down when it hits your target temp. You can also use the temp-cutoff as a safety measure by programming the Ice to use delta-peak but to shut down if the pack gets warmer than your set temp before a peak is detected. Another fail-safe is the programmable maximum-capacity setting that lets you program the charger to stop charging if it detects that the pack has taken more juice than it is rated for. This is set by percentage; for example, if you set the maximum capacity to 105 percent for a 3300mAh pack, the Ice will shut down if the pack takes 3465mAh before a peak is detected.

ADJUSTABLE VOLTAGE THRESHOLD. When charging in peak-detection mode, the Ice's sensitivity to voltage drop can be



A charge curve. See the vertical cursor line? You can scroll it across the curve to see data from any point, and you can zoom in and out to see more detail or get the big picture.

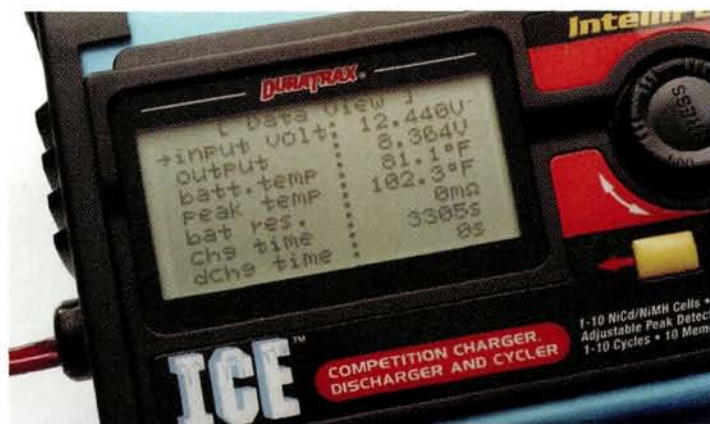


If you select the 4-step charging mode, the Ice will alter the charge amperage as the pack reaches the capacity milestones that you set. The graphic makes it easy to wrap your head around the configuration of the "steps."

adjusted from 0 to 25 millivolts. Crank it up for stubborn packs; keep it down low for newer cells. Note that this mode is for Ni-Cd and NiMH cells only; Li-poly and Li-ion packs have their own specific peak-detection setting.

MANUFACTURER'S SPECIFICATIONS

➤ Input voltage	11 to 15 DC
➤ Battery type/cells	1 to 10 Ni-Cd (1.2 to 12 volts) 1 to 10 NiMH (1.2 to 12 volts) 1 to 4 Li-ion or Li-poly (3.6 to 14.8 volts)
➤ Battery capacity	100 to 9900mAh
➤ Charge current	0.1 amp to 8 amps linear, reflex, impulse and 4-step
➤ Charge termination	Peak detection for Ni-Cd and NiMH; constant current/constant voltage for Li-ion and Li-poly; optional thermal cutoff for all battery types
➤ Peak sensitivity	0 to 25mV (adjustable)
➤ Trickle-charge current	0 to 500mA (NA for Li-ion, Li-poly)
➤ Discharge current	0.1 amp to 10 amps (adjustable)
➤ Discharge cutoff voltage	0.8 to 1.1 per cell (Ni-Cd, NiMH); 2.5 to 3.7 per cell (Li-ion, Li-poly)
➤ Temperature cut-off range	50 to 132° Fahrenheit
➤ Cycle count	1 to 10 (NA for Li-ion, Li-poly)
➤ Cycle cool-off delay	1 to 30 min. (adjustable)
➤ Battery memories	10
➤ Display type	8x21, 168 characters max.
➤ Graphic display	Graphs charge and discharge voltage curves
➤ Output connectors	Banana jacks
➤ Motor break-in	1 volt to 8 volts (selectable), 1 to 120 min., 10 amps constant
➤ Case dimensions	5.5x1.8x5.9 in. (140x45x150mm)
➤ Weight	21 oz. (605g)
➤ Price	\$150 (varies with dealer)



That's a lot of info—and there's more when you scroll down!

REFLEX-CHARGE MODE. Reflex charging delivers a 4-millisecond burst of discharge every second at four times the charge rate. For example, if you're charging at 5 amps in reflex mode, the Ice will deliver 5 amps for 99.6 percent of 1 second and discharge at 20 amps for 4 milliseconds for every second of the charge. "Reflex charging is believed by some to help remove oxidizing gas bubbles from the batteries' cell plates, allowing the battery to charge more efficiently and is thought to be especially helpful for older Ni-Cd batteries," says DuraTrax, and that pretty much sums up the accepted wisdom about reflex charging.

RE-PEAK AND AUTO-CHARGE MODES. If you like to re-peak your packs before each run, you'll like this feature. Just select the number of re-peaks you want (up to three), and the Ice will do the rest. If you select the auto-charge mode, the Ice will analyze the pack and charge it accordingly; all it needs to know from you is the battery type and maximum temperature for charge termination.



The Motor Run feature lets you set run time and voltage, and displays amp draw as the motor runs.

LIKES

- Incredibly adjustable; even charges Li-poly and Li-ion packs.
- Rugged extruded-aluminum case with built-in cooling fan.
- Clever banana-plug/alligator-clip connectors.
- Displays charge/discharge curves.
- Way affordable!

DISLIKES

- Screen isn't backlit.
- Only discharges up to 10 amps.
- Temperature probe isn't included.



The temp probe. You can adjust the spacing of the jaws to suit cells of different types.

FOUR-STEP CHARGE MODE. This mode is unique in that you set the charge amperage to vary according to capacity while charging. For example, you can program the Ice to charge at 3 amps until the pack has 1000mAh and then charge at 6 amps until it reaches 2500mAh and 5 amps up to 3300mAh, and then finish the charge at 4 amps. The amp rates and capacity settings are all up to you.

10 CHARGE PROFILES. Thank you; now I can program settings for my receiver pack, my old 2400s, the latest 3700s and seven other types of pack. That sure beats re-inputting the settings every time I clip in a new pack.

CYCLE-DATA RECALL. After cycling the pack (which you can set for up to 10 cycles and choose to finish with a charged or discharged pack), the Ice shows you all the capacity and voltage data for each cycle.

ADJUSTABLE COOL-OFF DELAY. After charging, a pack is warm; after dumping, it's hot. If you charge it and then dump it without a break, you just might overheat your cells. To avoid that expensive scenario, the Ice lets you program a cooling-off period between charging and discharging while cycling. You can set it for up to 30 minutes.

ADJUSTABLE MOTOR RUN. Getting juice into a motor is easy, but the Ice lets you decide just how many volts go in (1 to 8), and it allows you to set the run time (from 1 second to 3 hours!). It displays run time and amp draw as the motor runs and saves the peak amp draw.

0.1 TO 10A DISCHARGER. Here's the one area where I wish the Ice delivered a little more. Most racers prefer to dump packs at 20 to 30 amps, so the Ice's 10A maximum is on the weak side if training your packs at race-ampage is important to you.

ADJUSTABLE SOUNDS, SCREEN CONTRAST AND FAN OPERATION. We all like to personalize our gear, and the Ice makes it easy. You can put your name (or whatever) on the screen, select from a variety of "charge complete" tones, set the fans for auto-on or manual operation and even adjust the screen contrast.



All chargers should have this banana plug/alligator clip combo. You can jack into a power supply or clip onto a car battery without juggling adapters.



The output leads are attached to the Ice with banana plugs, and DuraTrax supplies both clips and a Tamiya plug. The temperature probe is sold separately.

Ice-ing Li-poly & Li-ion Packs

I concentrated on testing the Ice with the Ni-Cd and NiMH cells that still dominate RC, but the Ice is ready for the next generation of battery technology thanks to its Lithium-polymer and Lithium-ion battery compatibility. I used the Ice to charge an Electrify 1200mAh 7.4V Li-poly pack, and it worked as reliably with that as it did with "regular" batteries. Some of the Ice's functions (cycling, most notably) aren't available when charging Li-poly and Li-ion cells, but this isn't because DuraTrax skimped; it's because the omitted functions aren't good for the cells.

TESTING THE ICE

Getting started is easy; I didn't even need the manual to program the initial charge settings. Just scroll with the jog dial, press it to highlight the function you want, and then dial it up or down with the jog dial. If there's more than one column on the screen, the cursor keys are used to "move" left and right. I did find the screen a little hard to see, however, even with the contrast cranked up. Propping up the charger so the screen is closer to vertical helps a lot, but back-lighting the screen would be a better solution. After testing with Ni-Cd and NiMH packs, I concluded that the charging modes all work as promised, and the temperature probe

does its thing well. (I only wish it was included, instead of being an option. But at least it's cheap—about \$8.) I purposely set the voltage drop too high to see whether the Ice would over-charge my GP3300 cells, but it cut off the charge when the pack reached my programmed temperature setting of 100 degrees. And it shut down if the pack reached the preset maximum capacity before detecting a peak charge. As long as you set appropriate temperature and capacity cutoff levels, overcharging with the Ice is virtually impossible. Cycling packs was also simple, and being able to end on the charge or the discharge half of the cycle is a plus. The cooldown

feature is also a bonus because a pack can get quite hot while cycling, even at the charger's low 10A discharge rate. Amperage was a factor when using the motor-run feature. The Ice rolls up the voltage gently to eliminate the chance of a hard-start amperage spike, but low-turn mods can still pull more than 10 amps depending on the voltage you choose to run them at. The hottest mod I used to test the motor-run function was a Reedy Kr 10-single. If I ran the motor at more than 3 amps, it would overload the Ice, causing it to terminate the run and display a "motor not connected" message—no harm done.

THE VERDICT

The Ice is an incredible charger based on its features alone, but factor in its low price, and it's not just a great piece of gear; it's also a major bargain. The low cost offsets the "misses" of low discharge amperage, a non-backlit screen and not-included temp probe. Makes me wonder whether DuraTrax would do well to offer an "Ice Pro" with a 30A discharger, a backlit screen and a temp probe. Heck, offer an AC/DC model, too. I'll keep my fingers crossed, but for now, the Ice is sure to be a hit as is. Just make sure that you write your name on yours, because you'll see a lot of these chargers at the track! ■

◎FIND IT

>>> Go to page 244 for manufacturers' contact information



Pro Steering Mods for Revo

SURGICAL STEERING RESPONSE

THE TRAXXAS REVO FEATURES A BUNCH OF HIGH-TECH INNOVATIONS and a level of refinement that make it very popular among monster truck racers, but the production trucks have very neutral steering response; that leaves a lot of room for improvement for racers who want to carve their way through a track a more quickly. Here's how to get racer-like steering response from the newest Traxxas monster with a few simple modifications.

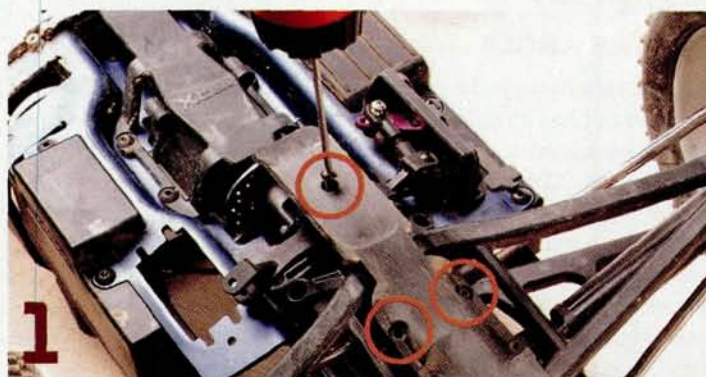
STEERING ASSEMBLY: BASIC MODS

1 Remove the three screws that hold the rear half of the front skidplate in place. Once the long screw that holds the steering arms, shaft and servo-saver is removed, the whole steering assembly is loose, so be careful not to lose any parts.

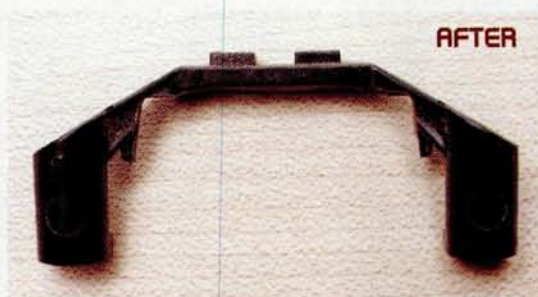
2 Remove the two screws that hold the steering stop, and then slide it out from under the exposed ends of the hinge pins.

3 Using a Dremel tool with a sanding drum or a grinding stone, modify the steering stop as shown. Cutting away a little of the steering stop on each side allows much more steering angle.

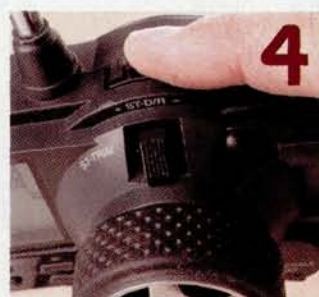
4 Reinstall the steering components. Once everything has been bolted back into place, readjust the servo endpoints to take advantage of the extra steering travel that's now available.



BEFORE



AFTER



4

UPGRADING THE SERVO-SAVER SPRING

Traxxas offers an optional high-tension servo-saver spring designed for use with high-performance servos in the Revo. I highly recommend this upgrade if you plan to install a high-performance servo. The stock servo-saver spring is soft enough to protect the standard servos, but it gives too easily, even for just one performance servo. The best time to do this mod is while you have everything taken apart for the steering-travel mod. While you have the servo-saver exposed, take a moment to install the upgraded spring, and your Revo will handle even better.



2



BEFORE

AFTER

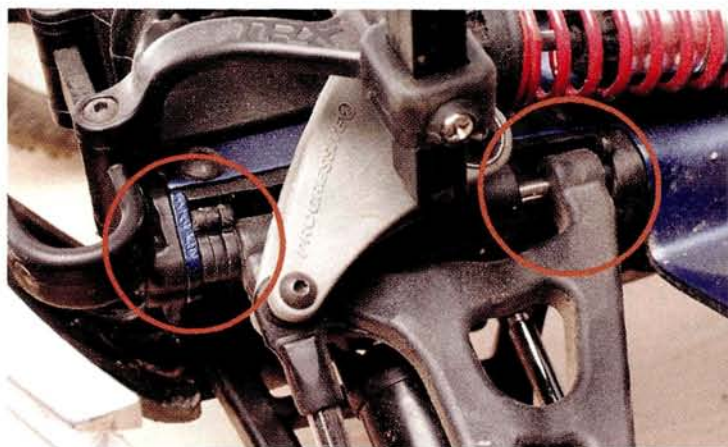
1 Remove the two hex-head screws that hold the servo-saver assembly together. Slowly separate the lower retainer for the servo-saver spring; don't lose the bearing.

2 Replace the stock servo-saver spring with the optional Traxxas heavy-duty servo-saver spring (item no. 5344X). When you reinstall the lower spring retainer, be sure to tighten the screws in an alternating sequence to ensure proper installation.

3 You can also remove the steering arm that's no longer needed after you've switched to a single-servo arrangement. Remove the steering arm before you install the upgraded servo-saver spring; then cut off the unused steering arm because it's no longer needed. Leaving the unused steering arm in place doesn't add much weight, so it isn't imperative that you make this mod; it just dispenses with some unnecessary hardware.

CASTER ANGLE

This is a simple adjustment that takes just a minute and costs nothing but has a positive effect on steering response. The upper front suspension arms can be adjusted to modify the steering caster angle. Clip-on shims that hold the suspension arms in place can be repositioned to modify caster angle. The truck comes with one shim fore and one aft of each suspension arm to center them on the hinge pins. Conventional wisdom would suggest that you use less caster angle for more steering response, but the stock setting already has too little caster to keep the front tires running flat on the track while cornering. Increase caster angle by shifting at least one of the shims to the front of the suspension arms. The ideal caster angles vary according to tire and track conditions, but the truck seems to benefit universally from a little extra caster angle, regardless of external factors.



Changing the Revo's caster is very simple: just move the caster clips.



Switching to race rubber, like this Pro-Line 40-series Bow Tie, can dramatically improve steering and overall traction.

TIRES

Any racer will tell you that the tires are 80 percent of the picture when it comes to getting better traction and overall handling. It isn't a topic directly related to a mechanical mod, but you can't talk about getting better steering without talking about tires.

The Revo's wheels have a larger diameter than the T-Maxx's and low-profile tires, but the tire tread and compound just don't provide as much traction and corner speed as aftermarket tires do with their treads and rubber compounds that are better suited to racing. Pro-Line offers Bow Ties in standard and 40-series sizes. The standard-size tire and wheel combination offers better traction on low-bite surfaces. The extra traction comes from the more flexible tire sidewalls. Some drivers cut down the standard T-Maxx tires and wheels; they're still wide tires, but they don't roll as much as the standard tires.

Larger 40-series tires and wheels are better suited to tracks with a little more bite. The large-diameter wheel is fitted with a tire that has a lower profile to limit sidewall flex, and that makes the truck more responsive because the tires aren't rolling around quite as much. They do give up a little traction to the standard tires, but that isn't a loss if you already have decent bite.

CONCLUSION

Although the Revo is already a strong performer, making the few simple mods outlined here will take its cornering ability to another level. At least try the steering-travel mod and the free caster-angle adjustment, and you'll be off to a good start. Only when you get the cash to buy a good servo and the optional spring will you be able to appreciate the extent to which you can improve the steering response of this machine.

FIND IT

Go to page 244 for manufacturers' contact information





Building a Pro Pit

You've made a commitment to racing with a competition car and the right fuel, motor, batteries, or engine to make it run its best, and you're starting to get results. But if you want to get to the next level, it may be time to upgrade your pit. You're not going to put in a pro performance without having the right tools to get the job done. The following are my "must have" items for racers who are ready to get serious.

CHARGER WITH A HIGH-AMP DISCHARGE FUNCTION

If you don't know what kind of shape your batteries are in, you are just asking for frustration and disappointment come race day.

Relying on the numbers printed on the pack works fine in the beginning, but after 10 or 15 charges, I strongly recommend that you cycle your packs to check their numbers. A simple bulb discharger will dump your packs well enough, but it won't give you discharge data. A good charger with a 30A discharge function is a necessity to keep your battery program in control. Often more important than run time is average voltage. Average voltage is what gives your car torque off the corners and top speed down the straight. If you notice a decrease in a pack's average voltage, a cell could be slowly dying. There is no way to know this without running them through a cycle on a charger/discharger and looking at the discharge-voltage curve.

RECOMMENDED: Competition Electronics Turbo 35 GFX (shown) item no. 3760; \$495 >> Futaba CDR-5000; \$520 >> Integy 16X7v6 E2025; \$265

SHOCK-OIL SELECTION

Along with changing springs, you might have to change the shock oil to match. Heavier springs sometimes dictate heavier oil. Again, don't annoy your buddies by borrowing shock oil. Buy oil in weights from 30 to 70 and put them in your box. That will give you a nice range to select from when racing.

RECOMMENDED: Team Losi Certified fluid (shown) >> Trinity Pure Silicone >> Associated silicone shock fluid (item nos. vary with weight; \$5 per bottle)

SPRINGS AND SWAYBARS

Your car handles as if it floats over the track instead of feeling glued to it. You ask around for setup suggestions and decide on a spring change ... except you don't have the springs to make the change. Don't test the patience of your fellow competitors by asking to borrow things; invest in two sets of springs for your particular car. Why two? Because you might want to run the same spring in the front and rear. The same goes for swaybars; if the car uses bars of the same design in the front and rear, get two sets.

RECOMMENDED: Check your manual for the correct tuning springs and swaybars



CHASSIS SETUP SYSTEM

When it comes to setting up cars that have independent suspensions, a setup system is indispensable. It can measure camber, caster, suspension droop, ride height, toe-in, toe-out and track width with the utmost precision. A setup system is great for making sure that your car is straight and equal from side to side—especially after big crashes! This tool also allows you to try new setups with confidence that you'll be able to return precisely to previous ones.

RECOMMENDED: Hudy Exclusive (shown) 108255; \$300
» Integy Setup Station 2 C22347; \$150

SOLDERING STATION

If you are serious about racing, you have already moved on to hard-wiring all the connections in your race car. You've also just about killed all of the nerves in your index finger and thumb by holding hot wires just long enough to get a nice solid solder joint! It takes a hot iron to make clean solder connections. Something in the 60W range will work nicely, and make sure that you purchase a wide chisel tip and a stand as well. The chisel tip will keep the heat coming as the 12-gauge wire and battery bars try to suck all the heat out of the tip, and the stand will prevent you from ruining your pit towel, sleeves, tabletop, etc.

RECOMMENDED: Solomon digital soldering station; \$70 » Hakko 936; \$80 » Weller WLC100; \$70

MOTOR LATHE

Sooner or later, every motor requires maintenance. The first step in rebuilding a motor is to true the comm with a lathe. When you true the comm, you not only make the surface smooth and clean again but you also make it round again so the brushes don't lose contact at any time during a revolution of the armature. The key to a nicely finished comm is to have a high-quality lathe and to spend the extra money on a diamond bit that will yield a comm finish that noticeably improves performance on the track. If you like horsepower, spend the money on a lathe, and learn to use it. You will see instant results.

RECOMMENDED: Orion QuickSet (shown) 41600; \$160 » Trinity Tru-Lathe RC4114; \$160
» Team Cobra Pro 2000; \$140



TIRE TRUER

If you race on foam tires and don't have access to a tire truer, you should invest in one sooner rather than later. All foam tires have to be trued out of the bag. Even when you want to leave them the stock diameter say, for a long nitro Main, you should still chuck them in the truer, skim a bit off the top and radius the edges to get to the fresh foam underneath and ensure that they are perfectly true. Splurge on the carbide cutting tool; it will save you from producing volumes of smoke in the pits and give your tires a perfect finish. Having tires that are all the same size and round can shave off two tenths per lap or more!

RECOMMENDED: Integy Auto TrueCut (shown) C22339; \$190
Team Cobra A/C Tire Truer 8000; \$200
Hudy Professional 102802; \$270
RDLogics 77005; \$230

ROTARY TOOL

Every RC guy should own a rotary tool. They come in handy for grinding A-arms to fix a bind, cutting off screws, rounding wheel wells, drilling small holes, polishing hinge pins, breaking in stock motor bushings, grinding graphite chassis, etc. I suggest you spring for a genuine Dremel tool. I especially like the new Li-ion-powered version. It's perfect for quick trackside repairs, especially if you are parking-lot racing.

RECOMMENDED: Dremel Li-Ion 8000-01; \$100 »
Dremel MultiPro 2-speed 2854; \$40 » **Craftsman** 61122; \$70

HIGH-QUALITY HAND TOOLS

Having all the tools you need—and good ones to boot—is a great confidence booster. You no longer dread having to fix your car because you know you have the right tools. For RC, you should have a complete set of screwdrivers (Phillips and flat-blade), needle-nose and standard pliers (large and small), two pairs of side cutters (large and small) and nut drivers (metric and standard). These can be hardware store items, but you should definitely turn to RC-specific brands when you choose your most-used tools: hex drivers. The choices listed below all feature high-quality hardened tips that fit precisely and will last through many wrenching sessions.

Add a tapered reamer, curved Lexan scissors, a hobby knife with no. 11 blades, and a couple of files, and your toolbox is complete.

RECOMMENDED: Hudy Professional (shown) » **MIP** Thorp » **RPM** » **Trinity** » **DuraTrax** » **Associated** Factory Team (item nos. and prices vary) ■

FIND IT

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Build the ultimate TLT-1 rock crawler

STRETCH, LOCK AND CLIMB



IN THE MARCH 2005 ISSUE'S "TROUBLESHOOTING" COLUMN, we featured a small photo of a modified TLT-1 Rock Buster with a short caption that gave you my email address to request tips on modifying the truck. In response to the overwhelming number of emails I received, we decided to publish a step-by-step how-to article that shows you how to stretch the wheelbase on your TLT-1 Rock Buster or Max Climber out to 1/10-scale dimensions. We didn't stop there, though; you'll also find information on how to lock up the diffs and install a low-CG battery pack, universal body mounts and much more. The best part, however, is that all of the parts used in this conversion are off-the-shelf items—no customizing required—anyone can replicate the truck shown here.

You'll need

CEN RACING

- Dogbone shafts for MT2—FF045; \$13

HPI

- Jeep Wrangler Rubicon body—7182; \$30

LUNSFORD

- Super Duty long titanium ball studs (2)—17508; \$14 each

PRO-LINE

- Masher 2000 tires (2 pairs)—1074-00; \$20/pair

RPM

- Super Duty rod ends—73360; \$5

TAMIYA

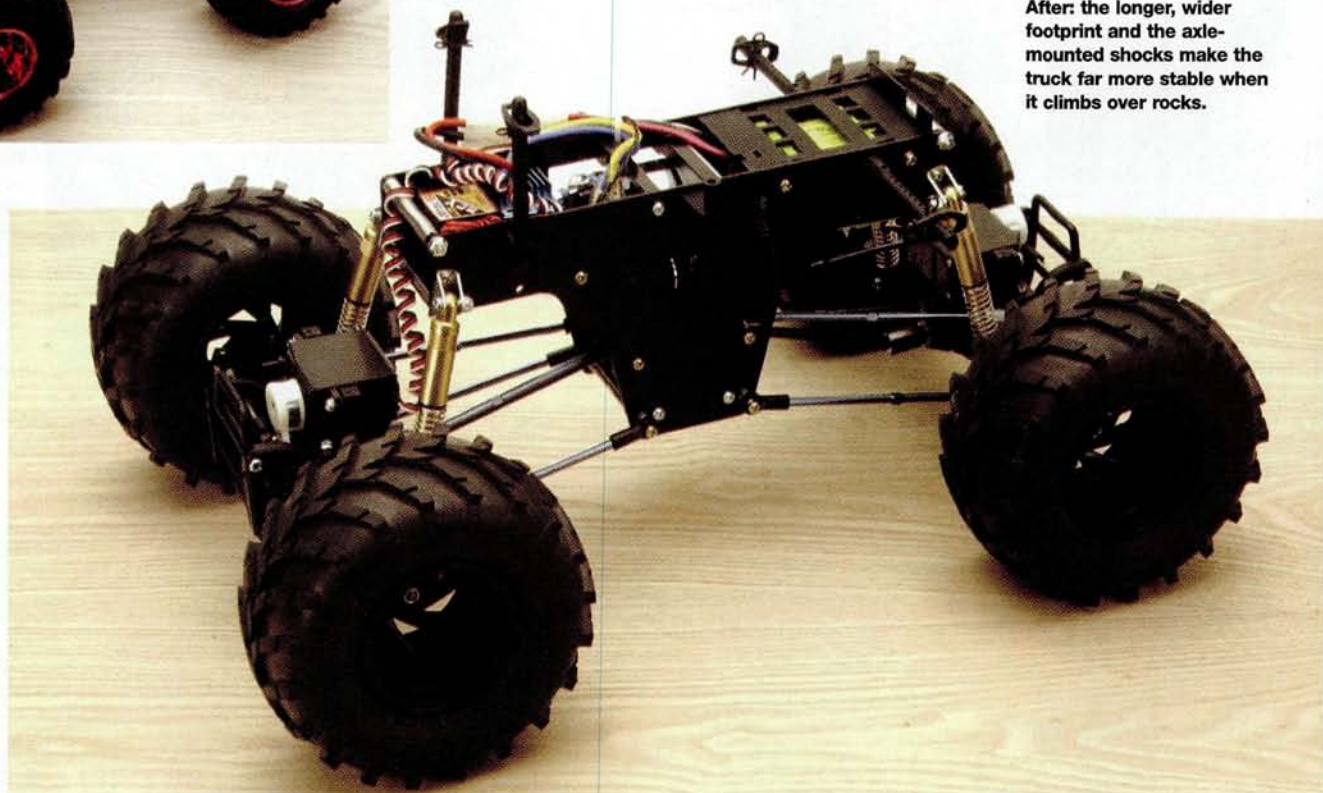
- TG10 long wheel axles (2)—SP-808; \$5 each
- TL-01 toe-in rear upright set—OP-345; \$10
- TA04 gear-differential pulley set—SP-891; \$5
- Differential bevel-gear set—SP-602; \$4

TEAM ASSOCIATED

- MGT Blue titanium turn-buckle sets—25383; \$45 (2 packages)



Before: the stock TLT-1 Max Climber looks very "mini" with its tiny tires, narrow track and short wheelbase, but it's really a blank canvas with tons of modifying potential.



After: the longer, wider footprint and the axle-mounted shocks make the truck far more stable when it climbs over rocks.

STEP 1 DISASSEMBLY

Remove the tires, front and rear diff cases (axles), upper and lower suspension links, shocks, cantilevers and the battery holder from the chassis. Next, remove the servos, suspension links and suspension stays from the axles. Set the chassis aside for now, and organize all of the screws and other small parts in a bowl so that nothing gets lost during the conversion.

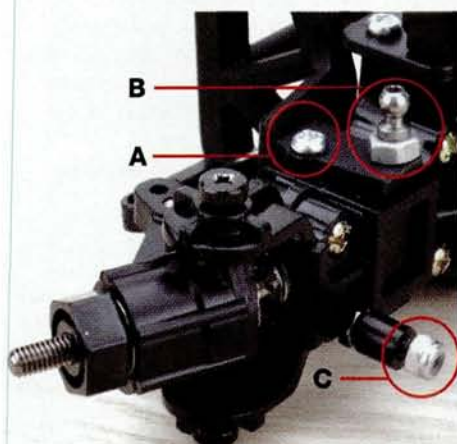
Keep all of the parts organized during disassembly. This is a good time to give the suspension and chassis components a thorough cleaning.



STEP 2 PREP THE UPPER AXLE

Secure the bumper to the axle with a 3x8mm screw in the front hole (A) and a ball joint in the rear hole, as shown (B). Thread a nut under the ball joint to raise it slightly; that will give the ball cup a little more wiggle room. I used Lunsford Super Duty titanium ball joints because they're ultrastrong and they have long threads. Remove the lower outermost screw (and its nut) from the axle, and replace it

with a 3x30mm machine screw (C). Thread a nut onto the screw, followed by a 3mm spacer. Install a 3mm lock-nut on the screw to hold the spacer in place during assembly. Now do the other side of the axle. Once you've finished prepping the front axle, repeat the process to prep the rear.

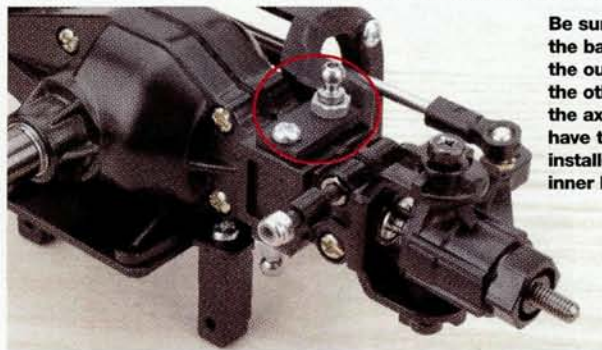


Use ball joints with long threads; the Lunsford titanium units I used not only have long threads, but they're also bulletproof.

Build the ultimate TLT-1 rock crawler

STEP 3 PREP THE LOWER AXLE

To secure the lower portion of the bumpers to the axles, thread ball joints in the front holes and 3x8mm screws in the rear holes, as shown. Thread a nut under the ball joints to raise them off the axle. Prep the rear axle the same way.



Be sure to mount the ball joints on the outside hole; the other side of the axle should have the ball joint installed on the inner hole.

STEP 4 SUSPENSION-LINK SETUP

Remove the rod ends from the stock upper and lower suspension links. You can put the stock links away because they will be replaced by longer Team Associated Monster GT blue titanium tie rods. The longer (MGT rear) tie rods will be used as lower front- and rear-suspension links while the shorter ones replace the stock upper links. Thread the stock rod ends onto the tie rods, and then install ball cups on the other ends, as

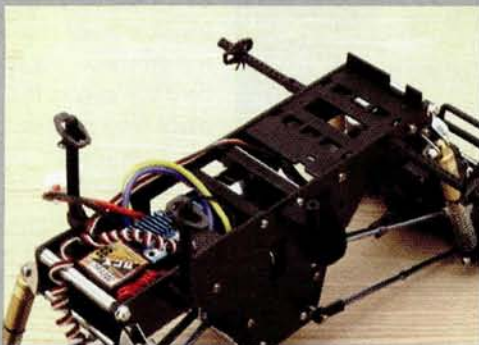


shown. Only RPM Super Duty ball cups (gray) will fit the large-diameter Lunsford ball joints that I used. The lower suspension links should be 141mm in length (from end to end) and the upper links, 135mm.

I used MGT blue titanium turnbuckles for the bling factor, but the stock steel MGT parts work equally well.

UNIVERSAL BODY POSTS

The stock 1/18-scale body will look a little strange mounted on your stretched-out TLT-1. It's all good because now you can install any 1/10-scale body you like. Before you mount a body, however, you will have to modify the body mounts. Install the longer rear body posts up front in place of the front body posts. Next, install touring-car-style front body posts in the sides of the chassis as shown (use the original body-post-mounting holes).



The horizontally mounted rear body posts let you install pickup and SUV bodies without changing the height of the posts.

STEP 5 INSTALL THE SUSPENSION LINKS

Install the upper and lower suspension links on the axles by simply popping the ball cups onto the ball joints. Remember: the shorter links go on top, and the longer ones go on the bottom.



The ball cups will pop off under extreme conditions, and that will prevent breakage. If you prefer a more secure suspension-link connection, use the stock or heavy-duty rod ends and 3x15mm screws, as shown.

BIGGER TIRES & WIDER AXLES

Now that you've stretched your truck's wheelbase, it's time to stretch the width. Tamiya offers TG10 long wheel axles (SP-808) that fit the TLT-1. You'll need two pairs of long axles and four extra-wide hex adapters. The extra-wide hex adapters are part of Tamiya's TL-01 toe-in rear upright set (OP-345). Installing the extra-long axles and hex adapters will widen the truck by approximately 1/2 inch.

The TLT-1 uses standard 12mm hex adapters, and that means that you can install Tamiya Wild Dagger wheels



(0445720). Wild Dagger wheels accept most 2.2-inch truck tires, and their shallow offset widens your truck an additional 1/2 inch. I painted the rims black and then glued on a set of Pro-Line Masher 2000 tires because they look scale and provide great traction.



Top: installing longer axles and wide hex hubs will stretch the width nearly 1/2 inch.

Bottom: As you can see, the Tamiya Wild Dagger wheel has a very shallow offset. You'll gain another 1/2 inch by bolting these hoops onto your TLT-1.

STEP 6 ATTACH THE UPPER SHOCK MOUNTS

Remove the 3x62mm screw and flange nut that secure the lower front tube brace between the chassis plates. Attach a short sus-

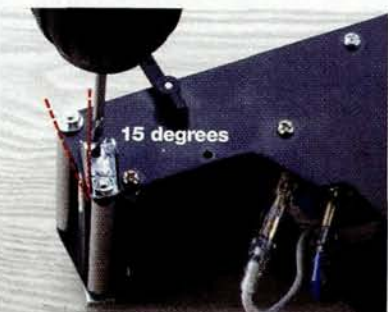


The suspension stays that were originally mounted on the axles are now used to mount the shocks.

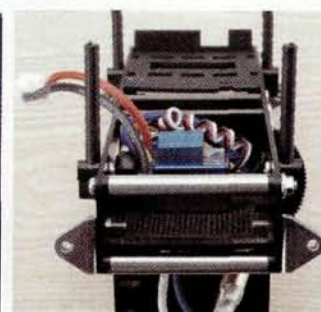
pension stay (removed in Step 1) to each side of the chassis, as shown, and then pass the 3x62mm screw through the lower holes in the suspension stays. Thread a 3mm nut onto the screw and tighten it.

STEP 7 DRILL SHOCK-MOUNTING HOLES

Rotate the suspension stays 15 degrees towards the inside of the chassis, and then firmly tighten the screw. Use the suspension stay's upper screw hole as a pilot to drill a hole through the chassis with a 1/8-inch drill bit. Next, slip a 3x6mm screw through the hole that you just made, and hold the screw in place with a flange nut on the other side. Repeat the process on the remaining suspension stays.



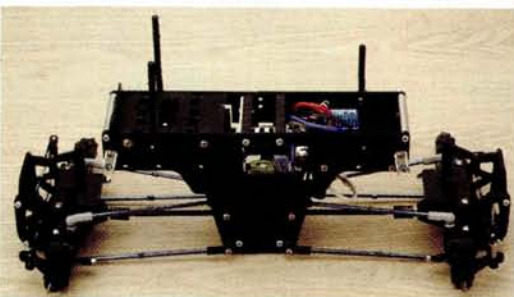
Use the suspension stay's upper mounting hole as a pilot to drill a hole with a 1/8-inch drill bit.



Secure the suspension stays to the chassis with a 3x6mm screw and flange nut as shown.

STEP 8 INSTALL THE AXLES

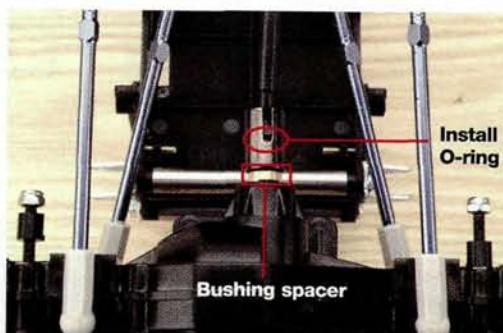
Bolt the front and rear suspension links to the chassis. Attach the upper links first, and then install the center dogbone driveshafts before you finish up by attaching the lower suspension links. I used CEN MT2 rear dogbones, but most 95 to 98mm 1/10-scale dogbones will work.



The project is starting to come alive—just two more steps and you'll be ready to hit the rocks.

STEP 9 CENTER THE DRIVESHAFTS

Install O-rings inside the drive cups so the dogbones remain centered. For a precise fit, you may have to install spacers between the drive cups and the pinion-gear shafts, as shown. I used an 850 bronze bushing from one of the cantilevers to



shorten the distance between the drive cups.

O-rings and spacers are used to center the dogbones inside the drive cups. Don't skip this step, or you'll be out searching for lost dogbones the first time you run the truck.

ALL LOCKED UP

Most rock-climbing rigs have locked differentials that provide equal power transfer to all four tires, and that prevents the diffs from unloading when one of the tires loses traction. Locking the front and rear diffs is easy, and it will improve your truck's climbing ability, but the TLT-1 will not handle very well on high-traction surfaces such as asphalt with the diffs locked up. That said, here's how you do it.

YOU'LL NEED

- JB-Weld or hot glue
- Tamiya pulley SP-891 and bevel-gear set SP-602



Step 1 Disassemble the axles so that you can access the metal diff cases.



Step 2 Remove the bevel gears from the diff cases, and then soak them in solvent to get rid of the grease. Give the diff cases a bath while you're at it.



Step 3 After the gears have dried, apply JB-Weld or hot glue liberally inside the diff cases and over the gears, and then quickly reassemble the diffs. I prefer to use hot glue because it dries quicker and molds itself around the diff components better than JB-Weld.



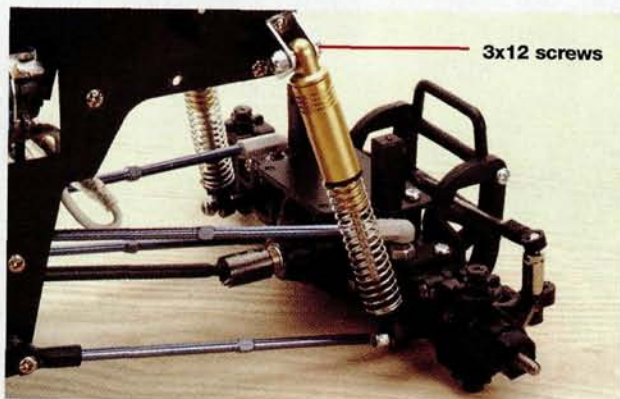
Step 4 The center ball diff can't be locked, but you can tighten the diff-adjustment screw all the way to reduce differential action.



Step 5 If you must have a locked center diff, install a TA04 gear-diff pulley set (SP-891) and a diff bevel-gear set (SP-602) in place of the center ball diff, and follow the steps outlined above to lock it up.

STEP 10 INSTALL THE SHOCKS

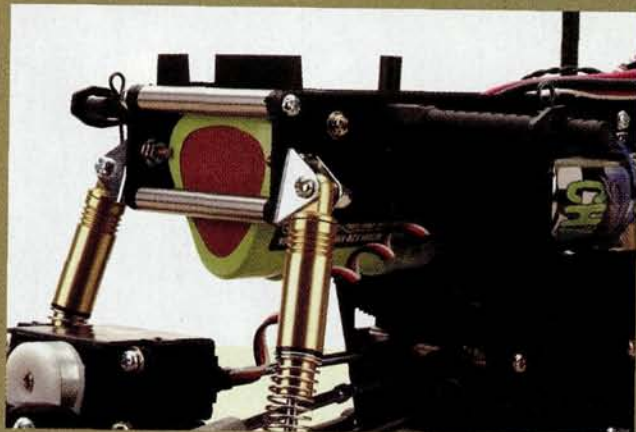
Attach the lower portions of the shocks to the 3x30mm screws that you installed in the axles (Step 2). Use 3x12mm screws and locknuts to attach the upper shock mounts to the suspension stays that you mounted at every corner. Be sure to use the bronze bushings in the shock caps, and do not overtighten the nuts; the shocks should have a little slack.



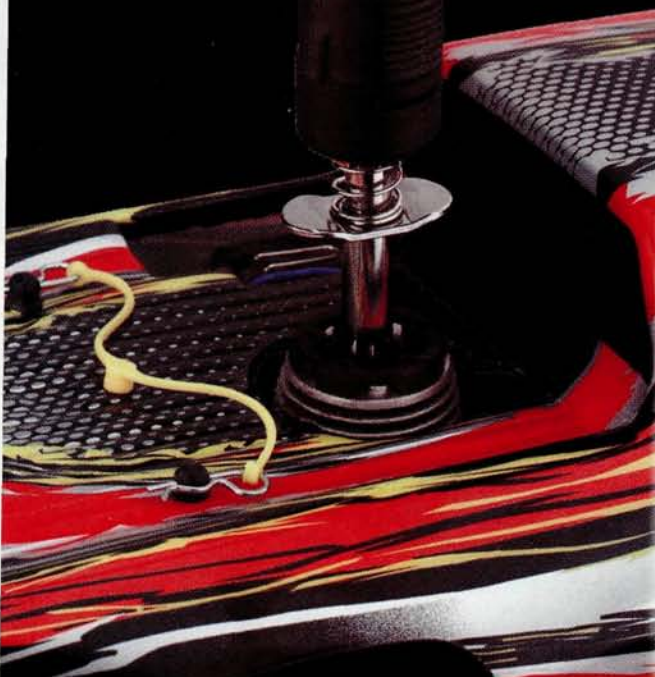
Do not overtighten the screws that secure the shocks; the shocks should have a little wiggle room.

LOW-CG BATTERY MOUNTING

The original TLT-1 Rock Buster requires a special 6-cell hump battery pack, but the latest TLT-1 Max Climber takes a flat 6-cell stick pack. I like the convenience of using regular stick packs, but the pack is mounted high on the chassis, and that makes the truck a little "tipsy." I decided to use the original Tamiya 1700mAh hump pack, but I mounted it under the battery-mounting platform, as shown. Two zip-ties secure the battery. ■









E/Z Glo

Glo-Plug Ignitor w/ Beep Tester

This is a revolutionary ignitor and glo-plug tester. The E/Z Glo will not only effectively ignite your models glo-plug, but will also test it and report its condition with an audible beep. Simply connect the E/Z Glo to your glo-plug, press the test button and listen for the beep. If you hear a beep, the plug is good. If there is no beep, the plug is bad. The E/Z Glo comes with a 1700 mAh battery & charger. The battery is also replaceable.

Cat. No. 927

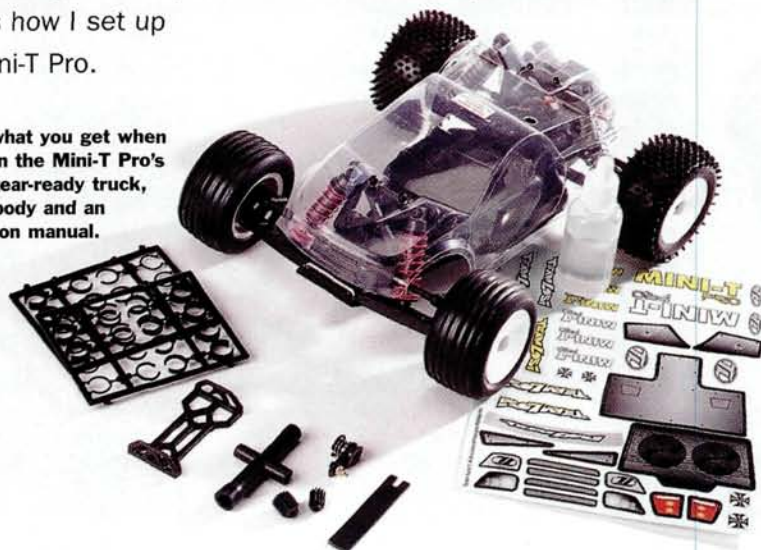
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Project Team Losi Mini-T Pro

TALK ABOUT PERFECT TIMING. Just as I was about to tear down my Mini-T for the "Project" treatment, the Mini-T Pro arrived. It already has the most popular upgrades (oil shocks, ball diff, CVDs, etc.), and since it's sold as a chassis only, you don't spend money on RTR radio gear that you'd shelve in favor of your own racin' stuff. Here's how I set up my Mini-T Pro.

Here's what you get when you open the Mini-T Pro's box: a gear-ready truck, a clear body and an instruction manual.



Parts

Mini-T Pro—0210, \$150

BODY, WHEELS & TIRES

Pro-Line

- The Edge front tires—1115-00, \$10/pair
- Bow Tie rear tires—1114-00, \$10/pair
- Crowd Pleazer body—3172-00, \$14

ELECTRONICS

JR RACING

- XS3 Pro—JRP337275, \$250
- 241 metal-gear microservo—JRPS241MG, \$40

Trinity

- Terminator motor—TRI11993, \$35
- Micro VIS-matched 6-cell pack—TRI20003, \$54

TOTAL—\$563



Ready for action. This picture is only slightly smaller than "actual size"! I could have installed a smaller receiver, but I'm spoiled by the JR's frequency-synthesizing capability.

MINI-T VERSUS MINI-T PRO

With just a glimpse of the Mini-T Pro, you may not notice all the changes in the new truck. Here's the breakdown:

	MINI-T	MINI-T PRO
REAR TIRES	Mini-spike	Step-pin
SHOCKS	Friction-type, plastic	Aluminum, oil-filled
DIFFERENTIAL	Gear type	Ball type
SLIPPER CLUTCH	None	Dual-pad
CAMBER LINKS	Threaded rod	Titanium turnbuckles
DRIVESHAFTS	Dogbones	MIP CVDs
DRIVETRAIN BEARINGS	Metal-shielded ball bearings	Metal-shielded ball bearings
WHEEL BEARINGS	Plastic bushings	Metal-shielded ball bearings
MOTOR	Team Losi stock motor	Team Losi Speed motor
TRANSMITTER	Losi 2-channel	Not included
RECEIVER	Losi 2-channel	Not included
SERVO	Losi micro	Not included
SPEED CONTROL	Losi forward/reverse	Not included
PRICE*	\$150	\$150

*Varies with dealer



I traded the stock body for a Zegers-painted Pro-Line Crowd Pleazer to help distinguish my Mini-T from the pack. The Mini-T Pro's stock Losi rubber is excellent, but I swapped it for Pro-Line Bow Tie and The Edge tires to match the local hot setup.

race gear

Trinity Mass Terminator motor

Trinity's newest mini-motor features adjustable timing and surface-mounted capacitors, and the open endbell makes it easy to change the brushes when they wear out.

This Trinity Terminator motor packs a punch. It has a 22-wind armature, and the brushes are exposed, so changing them is a snap.

Novak Micro GT speed control

This is the newest micro-speedo from Novak. It can handle 6 to 7 cells, and there's no motor limit (as long as it's a 280 mini-motor). I left out the connectors between the motor and speed control and the battery and speed control to reduce electrical resistance to all these components. Everything is now hard-wired.



Novak's new Micro GT is a great speed control for the Mini-T. It's small and light, so it helps to keep the truck's weight down, and it feels very smooth.

Trinity Micro VIS-matched 6-cell pack

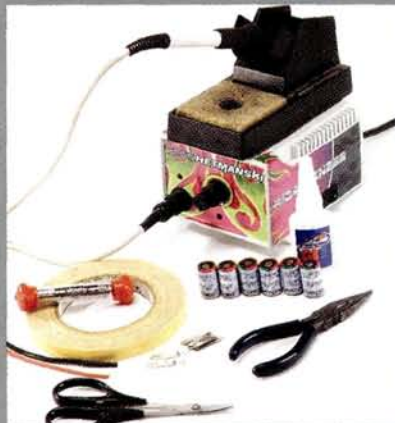
Trinity processes these cells using the procedure it uses for the "big" batteries, and the matched cells are sold unassembled, so the configuration is totally up to you.



I built this pack using the parts provided with Trinity's unassembled 6-cell matched battery pack. I left the connectors off so that I'd be able to hard-wire the pack and reduce resistance.

6-CELL BUILD

No self-respecting electric racer, and that includes Mini-T racers, would hit the track without a matched pack. I set my truck up with Trinity's latest VIS-matched GP1100 cells, but there's a catch: you have to build the pack yourself, and the procedure is a little different from what you're used to with sub-C cells. Here's how to do it right:



YOU'LL NEED

- › Soldering iron
- › Solder
- › Mini battery bars
- › 16-gauge wire
- › Thick CA
- › Strapping tape or stick-pack heat-shrink

STEP 1

Start with the 2 cells on the top of the pack. Tin both ends of each cell, and then place the cells together end to end, negative to positive. Place the tip of your soldering iron



between 2 cells so that you heat the solder on both at the same time. When the solder melts, pull the soldering iron away, push the cells together before the solder cools, and hold them until the solder firms up.

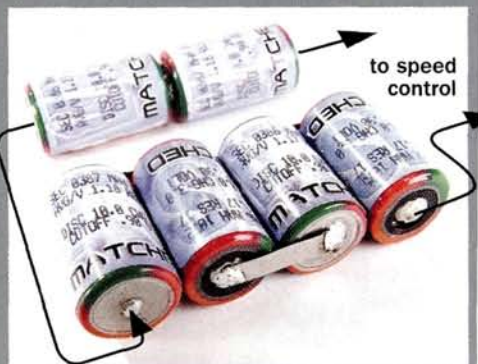


STEP 2

Connect the four remaining cells as you would for a standard sub-C pack, and then glue them together with thick CA.

STEP 3

Position the cells as shown, and solder the 4-cell block to the inline cells in series by adding a jumper wire, as shown. Strapping tape or stick-pack



heat-shrink can be used to hold them together. You could add a connector as a final step, but I hard-wired mine.



OFIND IT

>>> Go to page 244 for manufacturers' contact information

PERFORMANCE

I took my tricked-out ride to RC Madness (Enfield, CT) for a night of racing. I had never raced a Mini-T, so I didn't know what to expect. This little thing is dialed! I'm used to driving sedans on that carpet track, and there isn't a lot of room, but with the Mini-T, there's tons of room to wring it out. The steering was a little touchy for my taste, but turn the wheel, and it goes where you want it to in a hurry. I dialed out a little steering on the radio and didn't have any trouble getting the truck around the track. The chassis stayed flat in the turns (for a long-arm stadium truck), and the truck transitioned well from turn to turn. Traction was abundant, so I cranked down the slipper clutch to give the truck full wood out of the turns. Acceleration was fantastic: the truck

really blasted down the straight. Some guys opted to install a 7-cell pack, but I had all the rip I needed with just 6. Small jumps were set up, and the Mini-T Pro's suspension did a great job of dealing with them; the chassis stayed pretty flat. Jumping was the best part: the truck flew through the air with a level attitude and landed without bounce.

For any Mini-T fan with racing aspirations, the Pro is the only way to go. It's ready for your racing gear, and all the most important racing parts are already on board. I modded mine for personal preference and for carpet racing, but the Pro is totally ready to get it done in the dirt in stock form. ■

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The right mix: tuning for maximum performance

ON ANY RACE DAY, ON ANY RC FORUM and in any hobby shop, you'll hear unbelievable stories of how a budget racer with a \$150 engine can "blow the doors off" someone running a higher-quality, more powerful \$350 racing engine. In the order of the nitro universe, this seems inconceivable, especially to those who have owned and raced competition engines. Most expensive engines produce much more horsepower than budget engines do, but before you laugh in someone's face for suggesting such a thing, remember: an engine runs only as well as it's tuned to run, and there's no engine-tuning proficiency exam required when you buy a hot-rod engine.

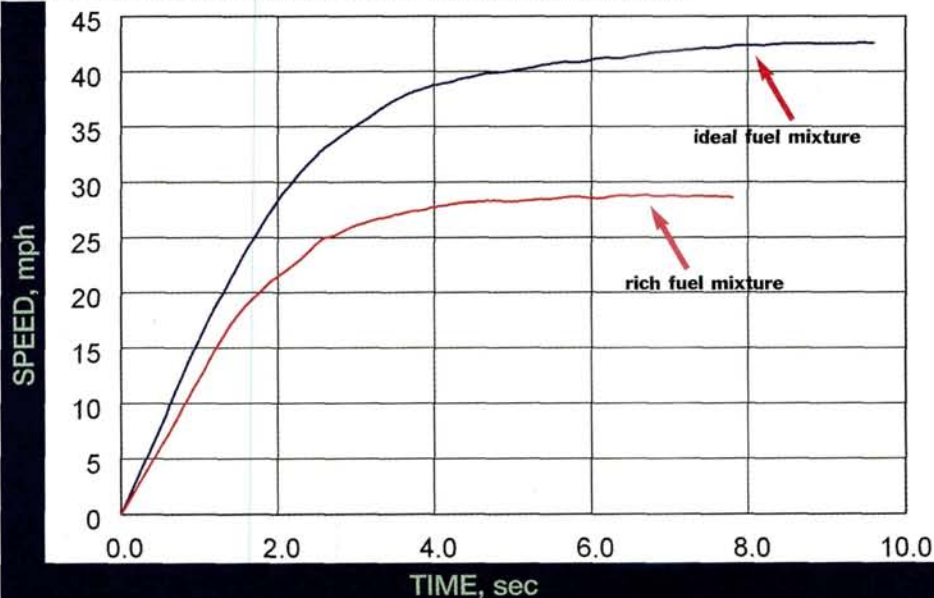
Computer-controlled fuel-injection systems in cars adjust the air/fuel ratio for changing atmospheric conditions hundreds of times per second. Nitro engines are lucky to be adjusted a few times a day, and by only experienced engine tuners who know how important that is to maintain peak performance. This "Piston Power" is about how much an engine can be affected by a poor fuel-mixture setting and how poor tuning habits can mean getting your ass handed to you by someone running a budget engine, even when you have the best mill that money can buy.

PROPER FUEL MIXTURE AND ITS EFFECT ON ENGINE PERFORMANCE

The last time I went out to do some radar testing, I was running the HPI Nitro MT2 SS truck, and I fattened up the mixture setting just to see how it would affect performance. Even with a really fat mixture, the engine ran well, and it would idle for a while because the low-speed mixture was still in the ballpark. A really rich fuel mixture often goes undetected because it doesn't show any overt signs of trouble the way a lean fuel mixture does. A lean mixture causes the engine to cut out or bog, but a rich fuel mixture might just make the engine slow to respond, and that might not set off any alarms that a mixture adjustment is necessary. Exactly what is the difference between a rich mixture and one that's spot-on? The radar graph represents the MT2's performances—one pass while the engine runs on a very rich, but functional, fuel mixture and the next with a dialed fuel mixture. As the graph shows, the difference affects all aspects of performance. The speed dropped from 42 to 28mph, and in just seven seconds of running at full throttle, the properly tuned engine pulls out to an incredible 90-foot advantage over the engine that's running rich. With a simple twist of a screwdriver, you can significantly impact the performance of just



The graph below illustrates how much engine performance can change with a simple fuel-mixture adjustment. The red line shows how much power is lost with a rich fuel mixture; the blue line shows how much better it gets with the right setting.



about any engine. As shown here, you can gain 50-percent more speed and pull out to a massive lead in just seconds.

QUICK TIPS TO HELP YOU TUNE

It's hard to know whether you're leaving some performance behind when you've never experienced what it's like to run an engine with the proper mixture setting. Don't be scared into thinking that your engine will be irreparably harmed if you run lean; engines are pretty resilient. Lean the fuel mixture a little at a time and be very observant of the performance. As long as you quickly richen the fuel mixture when performance drops off, no harm will come to the engine, and you'll have witnessed your engine's full potential.

PICK UP AN INFRARED TEMP GAUGE

When used properly, temp guns are excellent tuning aids, and over the past few years, they've become much more affordable. If you have a nitro machine, you should invest in one; tempgun.com has temp gauges starting at \$25. Don't use the temp gun to tune the engine, though. Use your screwdriver and your senses; the temp gun should be used at first just to make sure you aren't way out of the ballpark. Most engines run well in the 180- to 300-degree F range, so stay within these limits. Sometimes, a racing mechanic needs to tune with a temp gun because he can't hear the engine over the noise of the other cars on the track, and he isn't driving it, so he can't even gauge throttle response. Your powers of observation may even be a more accurate tuning aid than a temp gun.

TUNING

This chart indicates the direction in which you should adjust the fuel mixture when faced with changing weather and other conditions, assuming the engine is well tuned. You could face any combination of conditions listed in the chart; knowing which way to go with the mixture adjustments is half the battle.

Higher air temperature	Lean	↶
Lower air temperature	Rich	↷
Higher humidity	Lean	↶
Lower humidity	Rich	↷
Higher barometric pressure	Rich	↶
Lower barometric pressure	Lean	↷
Higher altitude	Lean	↷
Lower altitude	Rich	↶
Higher nitro content	Rich	↶
Lower nitro content	Lean	↷
Higher oil content	Lean	↷
Lower oil content	Rich	↶
Hotter glow plug	Rich	↶
Colder glow plug	Lean	↷

	IDEAL MIXTURE	RICH MIXTURE
Top speed:	42.57mph	28.83mph
Time to peak speed:	9.50 sec.	6.69 sec.
0 to 60 ft. time:	2.33 sec.	2.71 sec.
0 to 60 ft. speed:	31.29mph	25.20mph
0 to 132 ft. time:	3.73 sec.	4.52 sec.
0 to 132 ft. speed:	38.17mph	28.23mph
DISTANCE TRAVELED (IN FEET) OVER TIME:		
1 sec.	12.03	9.25
2 sec.	45.29	35.37
3 sec.	92.71	70.83
4 sec.	147.39	110.49
5 sec.	205.36	151.78
6 sec.	264.95	193.57
7 sec.	325.73	235.70

TUNE UP EVERY DAY

Weather conditions change, and that alone is a good reason to get out the screwdriver and be sure that you're getting good performance and that you aren't compromising your engine by allowing it to run somewhat lean for extended periods. In warmer weather, engines tend to require leaner fuel-mixture settings, and in colder conditions, they need a rich mixture to cope with that cold, dense air. Once your engine has been warmed up, try to gauge whether it is running at the same pace as it was before, or whether it has fallen off a little bit. Once you know which way to start making your adjustments (see "Tuning" sidebar), take a few minutes to ensure that your engine has a proper mixture setting for the current conditions, and you'll be fast all the time. Tuning once a day doesn't cut it, either; if you want peak performance all the time, tune frequently.



Q I have an HPI Savage .25, and I recently noticed that the dogbones that connect the diffs to the axles have a serious squeak. I considered putting a drop of oil on them to quiet them, but I decided not to do that without further

guidance because I am concerned that dirt will stick to the oil and wear these parts out much faster.

Jerry D.
Goldsboro, NC

A Jerry, the best thing you can do is visit a bicycle shop and buy a "dry" lubricant. This type of lube is typically used on bicycle chains for the same reason you mentioned: a "wet" lubricant tends to attract dirt. Suspended in a liquid, the dry lubes are Teflon or graphite particles that remain on surfaces after the liquid has evaporated. Brands such as White Lightning are popular because they allegedly flake off with use and, in doing so, carry away dirt that might be in the Teflon.

HPI Stage-D Conversion Set for Nitro 3

If you've ever witnessed a full-scale D1 drifting event, you'll understand why this new motor sport is quickly becoming one of the biggest spectator draws in Japan. There's nothing cooler than watching a car maintain a drift from one corner to the next with its tires smoking the entire way and without it crashing into a barrier or launching off a curb. The drift popularity has spurred car tuners to build special-purpose machines that allow precise sideways driving to score more points in competition.

Yokomo was first to bring drifting to RC by offering the popular MR4-SD kit with special drifting tires and officially licensed bodies. HPI took a different direction: it first introduced the sport to nitro enthusiasts with its new Stage-D Conversion Set for the Nitro 3. The Stage-D kit includes everything you need to transform your HPI Nitro RS4 3 Evo into a dialed drift machine.



This is one trick-looking machine. The engine is in the middle, the fuel tank is out back, and the reverse-mounted tuned pipe positions the exhaust stinger just in front of the right rear wheel.



Everything you need to convert the RS4 3 Evo into a mid-engine drift machine is included in the conversion set. HPI even gives you extra fuel line, zero toe-in rear uprights and all of the necessary screws and fasteners to complete the conversion.

WHAT YOU GET

The conversion set includes everything you need to convert a Nitro RS4 3 Evo and Nitro RS4 RTR 3 equipped with the optional 2-speed tranny into a mid-engine drift machine. At the heart of the kit is the 3mm-thick, machined-aluminum chassis that positions the engine and spur gear/brake mount closer to the center of the chassis to reduce weight transfer while accelerating, braking and cornering, which makes it easier to maintain and control a drift. The slotted and recessed engine-mounting holes allow you to run a super-low ride height without having to worry about scratching up the screws. Openings

in the chassis reduce weight, and you can crank over the engine with a starter box (if you wish), thanks to the generous flywheel access. Beveled edges around the flywheel opening protect the starter-box wheel during bump-starting.

A woven carbon-fiber upper deck with a separate battery mount holds the 5-cell hump pack (not included but required to complete the conversion) on the chassis side

directly across from the engine, while the fuel tank is relocated to the rear end of the chassis where the battery box used to be. A carbon-fiber front brace is also included along with billet-aluminum servo mounts for installing the steering servo backwards to make room for the relocated spur gear/brake mount. Included center dogbone driveshafts link the diffs, and you also get a shortened 2-speed layshaft and aluminum chassis posts to install the upper deck to the chassis.

A tubular header is provided to replace the stock unit. Its design is similar to a Nitro TC3 or CEN MT2 side exhaust header only a little longer. The header

Building Tips

■ Install the steering-bellcrank system first, the spur gear/brake mount second and the front suspension assembly third. This installation sequence will dramatically simplify the assembly process.

■ The fuel pick-up binds with the rear suspension-arm brace, and that may cause a fuel delivery problem. Install spacers under the tank's mounting ears to lift up the tank so that the fuel line does not contact the brace. Spacers are provided, but there's no mention of what to do with them in the instructions. You'll need longer, 3x20mm machine screws to mount the tank on the chassis.

■ Use Pacer's Zap-A-Dap-A-Goo or hot glue to attach the receiver battery pack to the throttle servo. For extra security, place a zip-tie around the battery pack and servo. This method is far more secure than mounting the battery on the chassis with double-sided tape as directed in the manual.

routes the tuned pipe in the opposite direction so that the exhaust tip peeks out just in front of the right rear tire. The conversion set also includes zero toe-in rear uprights and the extra fuel line that is necessary to reach the fuel tank. Special hard-compound tires are included (26mm front/30mm rear width) along with 5-spoke chrome rims.



The one-way front diff (left) and rigid rear spool (right) are great tuning tools once you've mastered the art of drifting. These devices help on high-bite surfaces, but they will make the car more difficult to drive on the loose stuff.

TESTING

I drove to a not-so-busy industrial center near my house and ran the car on a large concrete parking lot. I set up three widely spaced corner markers so I would be able to drive around the markers in an S-turn. I discovered that the car understeers severely and does not initiate a slide. At first, the car continued to track straight, even with tires turned in one direction or the other. I found that stabbing the brakes before entering a turn gets the car to rotate on its axis. Once the car starts to slide, you need to balance throttle and steering controls to maintain a drift in the corner. After practicing on one corner, I decided to drift from one turn to the next while maintaining a slide.

Even with a drift-specific car, drifting through a series of corners isn't easy. I'm glad that I didn't have an audience because I looked like a total rookie while I was getting accustomed to the routine. After some practice, however, my RS4 3 Evo drifted gracefully from one corner to the next. Just like in racing, it's important that you develop a momentum so you can pitch the car in

and out of the corners without losing speed or engine rpm. You need to remember that the engine rpm will control the vehicle's "angle" in the corners. The more throttle you give it, the more the rear end will slide out.

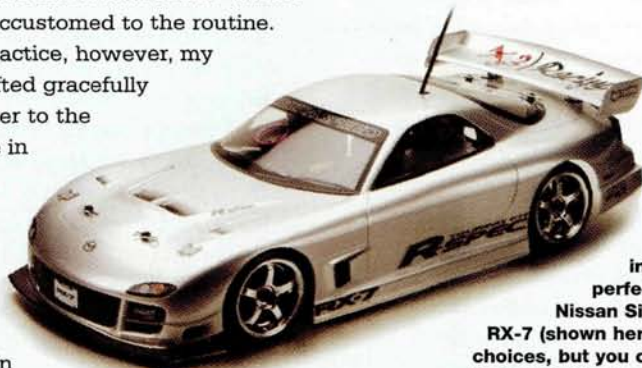
Lightning-fast reflexes are necessary to countersteer to maintain the proper angle in the corners. This is an oversimplification because there really is an art to drifting, and it will require lots of practice before you become an expert.

Next stop: Hot Rod Hobbies in Saugus, CA. The tight and technical outdoor on-road track is perfect for RC drifting, but it's also more challenging because you must keep the car between the lanes. The drift-spec Evo seemed to grip a little better on the asphalt, and that, surprisingly, made it easier to drift. But again I found that I had to force the car to slide by braking hard in the first corner. Once the car got sideways, I started to countersteer and vary the throttle to maintain the drift from one turn to the next. I probably hit every barrier and launched the car off a few corner markers during the first few tanks of fuel, but after time, I was able to complete several laps without hitting anything.

THE VERDICT

I'm hooked on RC drifting! The Stage-D Conversion Set really does transform the RS4 3 Evo into a purpose-built drift machine. I tried RC drifting before, but the sound, smoke and speed of nitro power peg the excitement meter. There is nothing like watching a nitro sedan slide around a technical roadcourse in perfect control, but it takes time to master drifting. Just like anything else, practice makes perfect; so expect to wear down some tires and scrape up some bodies during the learning process.

—George Gonzalez



HPI has many cool-looking bodies that are perfect for drifting. The Nissan Silvia, 350Z and RX-7 (shown here) are all excellent choices, but you can install any 200mm touring car body you wish.



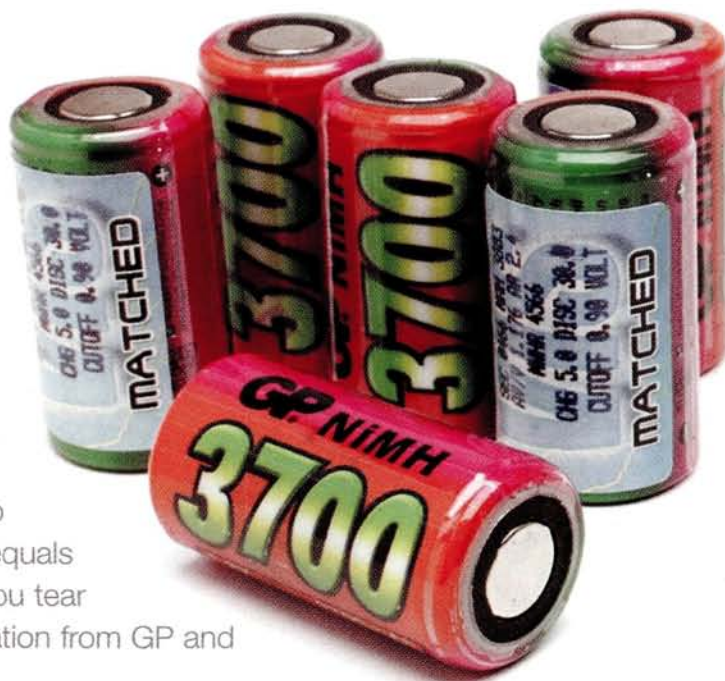
All the parts are organized in a plastic box; you can use it to store extra parts when you go to the track.

Drifting Tips

- Set up the 2-speed tranny for a late shift engagement; you don't want it to shift while the car drifts through the corners.
- Sweep the driving surface before you practice; dusty surfaces make drifting even more difficult.
- Set up the brakes for maximum braking force.
- Mount the body as low as you can and trim it as necessary to prevent it from scraping on the surface or binding with the tires.
- Use heavier shock fluid and install stiffer springs to reduce body roll and provide sharper steering response.
- Replace the fixed camber links with optional tie rods to allow camber adjustment: 2 degrees negative camber up front and 3 degrees in the back is an ideal starting point for drifting.
- High-speed steering and throttle servos will provide greater control of the vehicle.
- The type of body you use dictates how the car will handle, so try a few different ones.
- Don't experiment with a front one-way or locked differentials until you get accustomed to how the car handles with the stock dual-diff setup. The other options might help in certain conditions with an experienced driver behind the wheel, but they can also make the car very difficult to control on loose surfaces.

GOLD PEAK 3700 cells

Hot on the heels of Sanyo's mega-run-time 3600 cells are Gold Peak's 3700s. The first matched GP3700 pack we received for testing came from the folks at Trinity who have more than 20 years of experience matching cells for RC racing. Trinity uses what it has dubbed "VIS-matching" technology to ensure that matched cells can deliver the performance racers demand. VIS stands for Trinity's proprietary Voltage Increasing System, which is designed to increase the punch (or power) of a cell. More punch equals stronger acceleration and, quite simply, more rip as you tear around a racetrack. Let's see how the latest collaboration from GP and Trinity holds up.



TESTING

For racing, I currently run only GP3300 cells. As a result, I have an established method of charging and discharging Gold Peak cells, and since this was the first GP3700 pack I put juice in, I didn't change any of the parameters on my LRP Pulsar Competition 2 charger. I charged



Cycling the GP3700s on a Competition Electronics' Turbomatcher provided numbers that substantiated what I felt on the track.

at 6 amps with the delta-peak threshold set at 10mV. I kept a close eye on the temperature of the pack during charging to see how the new cells liked these settings. The GP3700 warmed as expected,

but the cells never got abnormally hot. That was good news, and even better was that while they were charging, the pack didn't skip a beat and it never false-peaked. Once charged, I immediately hit the track.

Other new, high-capacity cells that I've tested have disappointed me by lacking punch and going even flatter during the first minute of a run, so I'll admit that my expectations were low for the GP3700s. I'm glad to report that I was completely blown away by Gold Peak's latest. These cells have serious rip, and they pulled my Team Associated TC4 test vehicle as hard out of the corners as any of my top racing packs. Better yet, the GP3700s provided the gobs of run time I expected, and I felt just as much punch during the last minute of run time as they had provided at the end of the first minute. Sure, the first lap or so had the typical outright nasty punch, but these cells didn't fall off any more than any other top-level racing cell I've run. I went from skeptical to stoked in one run.

I've since run this pack at least a dozen times, and I've seen zero degradation in performance. The GP3700s that I tested from Trinity were at their best right out of

the box, and they haven't fallen off one bit since then.

THE VERDICT

The bottom line is that I can't wait for these cells to be legal, and with dimensions similar to GP's 3300 cells, ROAR should approve the GP3700s the next time it begins its yearly approval process. We'll know the official decision on or before October 1, 2005, but you can count on these cells being the hot *and* legal setup at ROAR events in the near future. If you race and your local club doesn't adhere to ROAR rules, don't wait; go get some of these cells.

Even if you just bash around the neighborhood and race your friends up and down the street, the GP3700s will give you more time between pit stops than your competition, and they probably offer improved acceleration over whatever packs you currently use. If you do race, you can rest assured that these cells offer extra performance for the extra money and deliver the punch needed to be competitive. Gold Peak 3700s are worth every penny.

—Matt Higgins ■

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» Go to page 244 for manufacturers' contact information

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CEN Racing (714) 792-1923; cenracing.com.

C&M Mfg./Team Cobra (801) 975-7724;
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Competition Electronics (815) 874-8001;
comptetion-electronics.com.

Dremel Tools (262) 554-1390;
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DuraTrax distributed by Great Planes;
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Futaba distributed exclusively by Great Planes;
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Great Planes Model Distributors Co.
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greatplanes.com.

Hill Top R/C and Hobby (603) 239-6111;
hilltoprc.com.

Hitec RCD (858) 748.6948;
hitecrd.com.

Horizon Hobby Inc. (800) 338-4639;
horizonhobby.com.

HPI Racing (949) 753-1099; hpiracing.com.

Hudy Products distributed by Hudy USA,
contact RC America (800) 519-7221; hudy.net.

JR Racing distributed by Horizon Hobby.

KO Propo USA (310) 532-9355;
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Kyosho distributed by Great Planes;
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MIP (626) 339-9007; miponline.com.

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OFNA Racing (949) 586-2910; ofna.com.

Pro Exotics (303) 347-0500; tempgun.com.

Pro-Line (951) 849-9781; pro-lineracing.com.

RDLogics (626) 810-7797; rdlogics.com.

RPM R/C Products (909) 393-0366;
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Schumacher USA (813) 889-9691;
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Tamiya America Inc. (800) 826-4922;
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Venom Racing (800) 705-0620;
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HANG 'EM HIGH!

Over the past couple of years, RC cars have been getting some serious demo time at monster truck shows and supercross events around the country. Team Associated's Tony Phalen sent us these crazy pics of his RC18T going big during a pit party at the Monster Jam monster truck show at Anaheim Stadium, CA. So how high did his pint-size truck get? According to Phalen, his RC18T topped out at around 25 to 30 feet in front of an amazed crowd of hundreds; even the full-size MT drivers came out to see it for themselves! Fellow RC monster truck madmen joined Tony during the pit party and intermissions to put on a show with their Monster GTs, Savages and LSTs. The crowd was treated to quite a spectacle as the guys went for big air over some really insane jumps. We're guessing that the full-size truckers inside the stadium wished they could get the air that our RC guys can!



Above: yikes! If that Associated RC18T were a full-size truck, it would be getting at least 200 feet of air! That would knock the Big Gulp out of the cup holder, for sure.

SEQUENCE 1

1 Above: as long as you have a landing ramp with a good transition, there's almost no limit to how far and high you can launch an RC car and still land it in one piece—assuming you hit the ramp! Tony almost missed it this time.

2 Right: another perfect launch. Check out the textbook nose-down landing.

SEQUENCE 2

3 Side by side with a Savage. Nice backflip, but no points for casing the landing!

SEQUENCE 3

SEQUENCE 4

4 Nailed it! Does RC get any better than this?